ASBPE Magazine of the Year 2006

HAPPY MEDIUM
Can you be both a manager and a techie? C.J. Kelly says it's a great combo. **PAGE 28**

ON THE MARK
IT doesn't look so good in two surveys on remote security, says Mark Hall. **PAGE 10**

COMPUTERWORLD

THE VOICE OF IT MANAGEMENT ■ WWW.COMPUTERWORLD.COM

NOVEMBER 20, 2006 ■ VOL. 40 ■ NO. 47 ■ $5/COPY

Flaws Wrack Kaiser E-health System

Internal report details hundreds of technical problems

BY LINDA ROSENCRANCE

There are major problems with an electronic health system being rolled out by Kaiser Foundation Health Plan Inc. and Kaiser Foundation Hospitals, according to an internal report and IT sources at Kaiser.

The panning of the HealthConnect project reached new heights earlier this month when Kaiser employee Justen Deal sent a memo companywide that strongly criticized the $4 billion electronic health system, which is based on technology from Epic Systems Corp.

INSIDE
Federal official says national e-health network prototype is due in January. Page 14

Just three days after the Nov. 3 memo was distributed, Kaiser CIO Cliff Dodd resigned. The company declined to say whether the resignation was related to the memo.

Meanwhile, a 722-page report compiled by Kaiser's IT department details hundreds of technical problems with the system — some affecting patient care — that appear to bear out some of the concerns that Deal and others have about HealthConnect's reliability and scalability. The report was compiled for senior managers at Kaiser, a spokesman said.

The criticism from Deal and an IT worker at the company who asked not to be named includes a claim that the Health-

Kaiser, page 44

Cultures Clash as IT Takes Control of Research Systems

HPC moving into tech mainstream

BY PATRICK THIBODEAU
TAMPA, FLA.

The rapid expansion of high-performance computing installations within government agencies, universities and the private sector is bringing more of the systems under the control of IT departments in an effort to improve how they're managed and reduce costs.

But the mainstreaming of HPC technology is causing a culture clash between IT staffers and the researchers who

IT and HPC, page 12

OU Provost OKs Firings of IT Managers

Says the two were to blame for series of data breaches

BY TODD R. WEISS

Ohio University's provost last week upheld the August firings of two IT managers in connection with a series of data security breaches, rejecting a recommendation by the school's grievance committee that the workers be rehired and given public apologies.

In letters sent last Wednesday to the two former IT employees, OU Provost Kathy Krendl said she reviewed their terminations and the grievance committee's recommendation and concluded that the firings were justified.

Krendl wrote in the letters to Thomas Reid, who had been director of communi-

OU Firings, page 14

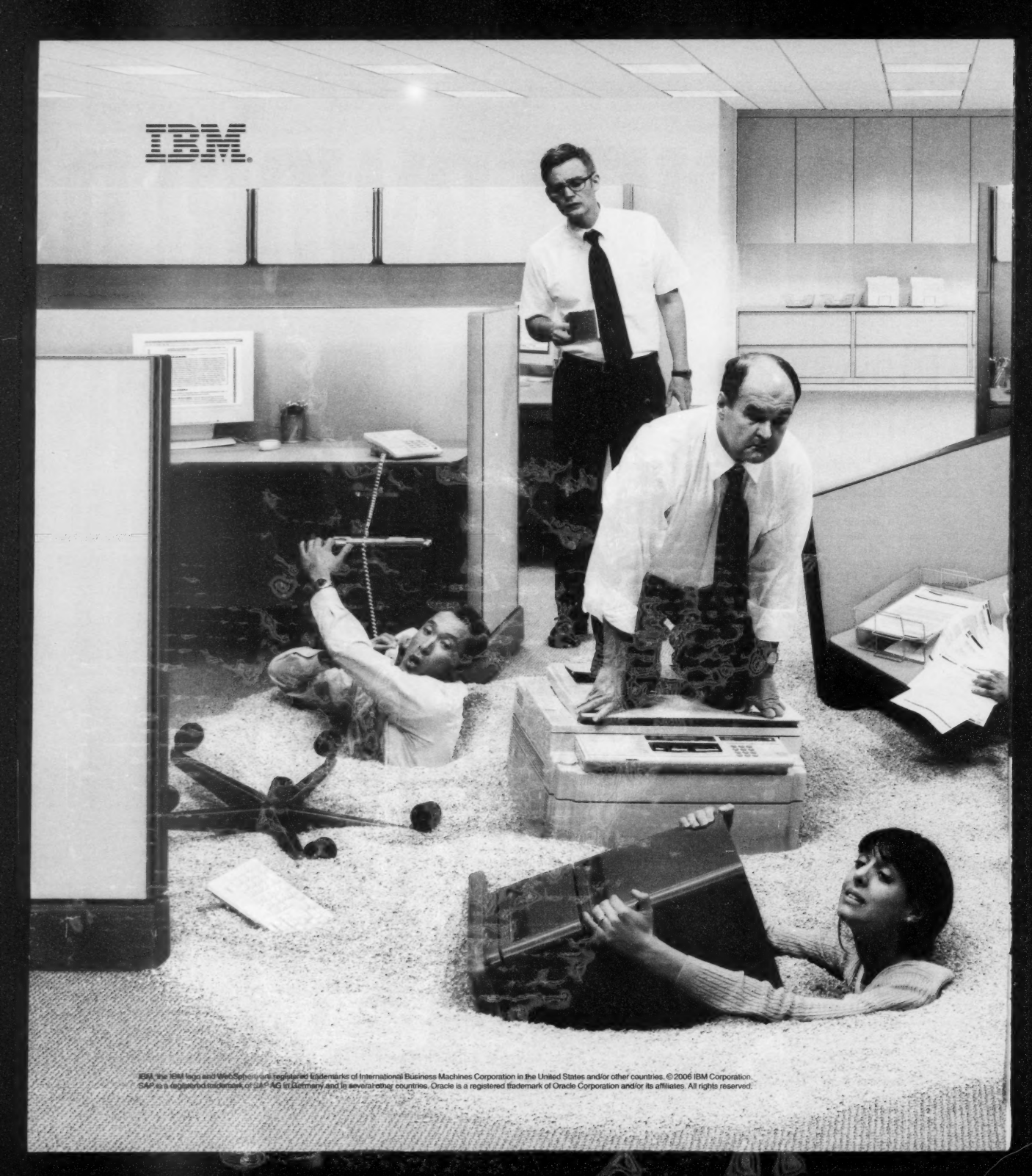
BXBBJFT**********CAR-RT LOT**B-050
0234945/CB/7 CW200647 002 12763
U M I P0066
PERIODICALS
PO BOX 1346 9997-4
ANN ARBOR MI 48106-1346

NEWSPAPER

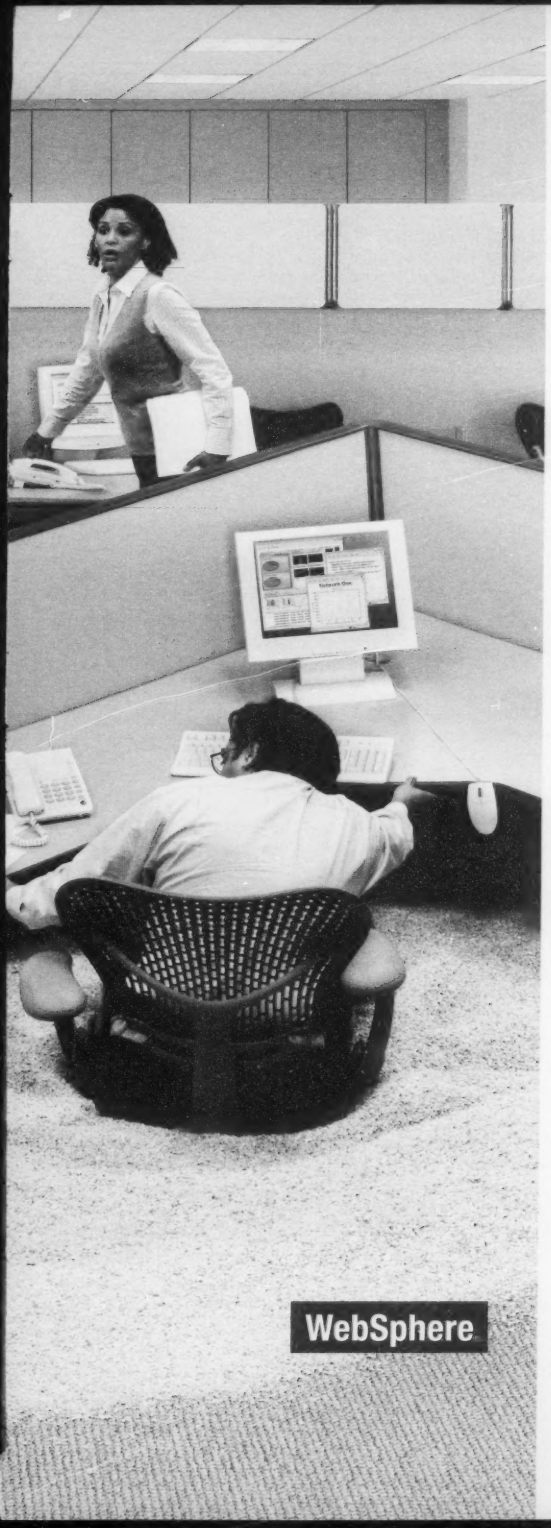
FISHING IN THE GLOBAL TALENT POOL

, a CIO at Royal Dutch Shell, says his goal is to hire the best IT worker for each job, no matter where in the world that person resides.

Amid cost crunches and skills shortages, some CIOs are testing new ways of hiring IT talent that's located overseas. **Page 33**



IBM, the IBM logo and WebSphere are registered trademarks of International Business Machines Corporation in the United States and/or other countries. © 2006 IBM Corporation.
SAP is a registered trademark of SAP AG in Germany and in several other countries. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. All rights reserved.



_INFRASTRUCTURE LOG

_DAY 34: This indecision is sinking the business. How do we move to a service oriented architecture? Where do we start? Can we reuse what we have? Can we integrate existing apps like SAP and Oracle?

_Infrastructure quicksand!! We waited too long. I'd throw Gil my tie, but it's a clip-on.

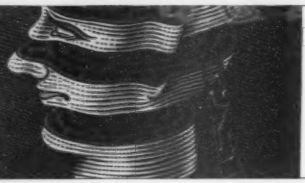
_DAY 37: A lifeline: IBM WebSphere middleware! It's already helped thousands of customers build an SOA. Adapters give us a standardized approach to integrating apps from SAP, Oracle and others. It lets us reuse what we have, saving time and money. And WebSphere even lets us build an SOA at our own pace, so we can deliver new services as needed.

_Oh, great. There's sand in my yogurt.

Download the reuse and connectivity kit at:
IBM.COM/**TAKEBACKCONTROL**/CONNECT

CONTENTS

11.20.06



Stepping Into Identity Management

In the Technology section: Identity management projects may be complicated and costly, but successful implementations are possible if you take small steps and limit the scope to key applications. **Page 22**

Managing Multicultural Teams

In the Management section: Subtle obstacles to teamwork resulting from cultural or linguistic disconnects can do real damage before an IT manager even realizes what's happening. Northwestern University's Jeanne Brett, who has studied teams around the world, offers some strategies for dealing with the challenges. **Page 36**

NEWS

6 Microsoft plans to use its SQL Server 2005 database to build a 162TB data warehouse for itself and a 270TB one for an unidentified foreign government.

8 Concerns about credit and debit card fraud, stemming from an apparent security breach at a convenience store chain in Michigan, force several financial institutions to reissue thousands of cards.

14 Q&A: Robert Kolodner, the interim national coordinator for health IT, says a prototype of a nationwide e-health network should be completed by January.

16 Borland drops a plan to sell its development tools unit and says it has turned that operation into a subsidiary called CodeGear.

16 E-voting results in controversy in a small Arkansas town, where a losing candidate for mayor contends that a touch-screen machine didn't even count his own vote for himself.

17 Q&A: BMC Software CEO Robert Beauchamp says IT is "the least automated department in any company" — and BMC is trying to change that.

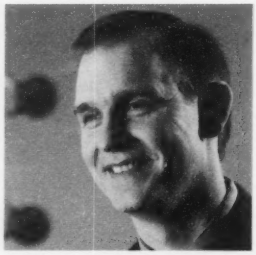
17 A pharmaceutical wholesaler is testing a system that uses RFID technology to track drugs throughout the distribution process.

18 Global Dispatches: The European Commission threatens Microsoft with more fines if it doesn't submit missing documentation on interoperating with Windows by Thursday.

TECHNOLOGY

28 Security Manager's Journal: Can a Manager Be a Techie and Survive? For C.J. Kelly, being a manager of techies without being a techie at heart just wouldn't work. She says it's possible to configure security devices while managing a big project; the key is learning to "time-slice," which lets her smoothly switch gears.

MANAGEMENT



33 Fishing in the Global Talent Pool. The world may be famously flat, but the learning curve for global hiring is steep. That's what IT execs like Jay Crotts, a departmental CIO at Royal Dutch Shell, are discovering as cost pressures and the talent crunch force them to cast wider hiring nets that reach into foreign waters.

38 Q&A: Required Reading. The list of 30 books that attendees of SIM's Regional Leadership Forum must read as part of the intensive nine-month program undergoes a thorough review by facilitators. RLF program director Bob Rouse talks about what it takes to make the cut.

OPINIONS

10 On the Mark: Mark Hall says two surveys show that remote workers are a big security risk but that IT is doing little about it.

20 Don Tennant believes the precipitous drop in women in IT must be addressed before it chips away at IT's contribution to human interaction and progress.

20 David Moschella considers the economic landscape and IT's place in it.

21 Virginia Robbins explains what users can do when IT isn't meeting their needs.

30 Mark Willoughby says SOAs provide the technical foundation necessary for giving customers a highly personalized experience.

39 Bart Perkins provides examples of management concepts from other fields that can increase IT's effectiveness.

46 Frankly Speaking: Frank Hayes thinks Sun's release of Java as open source is better for IT than the Microsoft-Novell Linux deal.

DEPARTMENTS/RESOURCES

At Deadline Briefs	6
News Briefs	10, 12
Letters	21
IT Careers	41
Company Index	43
How to Contact CW	43
Shark Tank	46

ONLINE

WWW.COMPUTERWORLD.COM

Is the Boss Reading Your E-mail?

NETWORKING: E-mail privacy is a myth, Sandra Gittlen explains, and what you're doing right now with e-mail, instant messaging or blogs could get you fired.

www.computerworld.com/networking

Unplug Your Backups

STORAGE: Wireless USB addresses short-distance cabling complexities.

www.computerworld.com/storage

HTML and XHTML For Mobile Devices

MOBILE/WIRELESS: This book excerpt from O'Reilly's *HTML & XHTML: The Definitive Guide*, Sixth Edition offers "some suggestions — and lots of sympathy — for creating effective content that works across [multiple] devices."

www.computerworld.com/mobilewireless

Piecing Together Microsoft's DRM Puzzle

OPERATING SYSTEMS: The copy-control technologies baked into Vista and the Windows Media platform cover plenty of ground, but who do they benefit?

www.computerworld.com/software

Vista A to Z

WINDOWS: Reviews, analyses, visual tours, how-tos, hot issues and more surrounding Microsoft's new operating system.

www.computerworld.com/software

ONLINE DEPARTMENTS

Breaking News	computerworld.com/news
Newsletter Subscriptions	computerworld.com/newsletters
Knowledge Centers	computerworld.com/topics
The Online Store	computerworld.com/store

_INFRASTRUCTURE LOG
_DAY 44: This lack of productivity is out of control. What we're using isn't working. Gil's had enough. He moved everyone into one cubicle. A "collaboration" cubicle. We need a better idea.
_DAY 46: I'm going with IBM Lotus® Notes® and Domino®. It's more than e-mail; it's an open platform designed for collaboration. It has proven security features and productivity enhancers like document sharing and custom app development. And it's flexible enough to integrate across multiple platforms, including J2EE™ and Linux®.
_OK, who sat on my lunch?
IBM
Lotus.
Download the Lotus Notes & Domino demo at:
IBM.COM/TAKEBACKCONTROL/COLLABORATION

IBM, the IBM logo, Lotus, Notes and Domino are registered trademarks or trademarks of International Business Machines Corporation in the United States, other countries or both. Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both. Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both. ©Copyright IBM Corporation 2006. All rights reserved.

AT DEADLINE

Exploit Posted for Windows Flaw

Hackers have posted code that could be used in worm attacks on Microsoft Corp.'s Windows operating system, said Symantec Corp. It exploits a critical flaw in a Workstation Service function that was patched only last week. The flaw allows attackers to create user accounts, install programs and view, modify or delete data. Microsoft is investigating the exploit claim.

Dell Delays Results Due to SEC Probe

Dell Inc. postponed the release of its third-quarter financial report last week, citing the complexity of an ongoing investigation of the company by the U.S. Securities and Exchange Commission. Dell will now release preliminary third-quarter results later this month. The SEC is investigating the company's revenue-recognition and accounting practices for past fiscal years.

HP Reports Gains In Sales, Profits

Hewlett-Packard Co., emerging from a boardroom scandal in which former officials have been charged for alleged illegal efforts to plug leaks to the news media, reported increased revenue and profits in its fourth 2006 quarter.

HP BY THE NUMBERS

	REVENUE	
Q4 '06	$24.6B	$1.7B
Q4 '05	$22.9B	$416,000

CA Sues to Recover Kumar's Legal Fees

CA Inc. has filed a lawsuit to recover $14.9 million in legal defense fees it paid for former CEO Sanjay Kumar, who has pleaded guilty to fraud charges (see related Brief on Page 10). A Nassau County, N.Y., Supreme Court judge has approved an attachment order covering Kumar's house, a 1999 57-foot Azimut boat, two Ferrari cars, a Land Rover and a Volvo, among other items.

Microsoft Aims High On Data Warehouses

Says SQL Server will support 270TB installation for external customer

BY ERIC LAI
SEATTLE

ONCE characterized by its rivals as a database featherweight punching above its weight class, Microsoft Corp. last week said it plans to build two mammoth data warehouses based on its year-old SQL Server 2005 software.

At the annual conference of the Professional Association for SQL Server (PASS) user group, Microsoft said it is designing a 270TB multinode data warehouse for a foreign government that it declined to identify. The software vendor is also working on a 162TB single-node installation for its own marketing department.

Topping Yahoo

Both systems would easily top a 100TB Oracle data warehouse at Yahoo Inc. that in September 2005 was ranked as the world's largest known installation by Winter Corp., a Waltham, Mass.-based consulting firm.

Winter has yet to update its rankings, and Mark Souza, Microsoft's group program manager for SQL Server, acknowledged last week that larger data warehouses may exist at user sites that prefer not to be ranked for competitive or national security reasons.

Nonetheless, some users and analysts at the PASS conference said that with SQL Server 2005, Microsoft is putting to rest lingering doubts about its ability to handle large enterprise workloads.

"They can scale and handle data warehouses of any size; we know that now," said Donald Feinberg, an analyst at Gartner Inc. "I routinely talk to SQL Server customers that have built 7TB data warehouses or Windows Datacenter [systems] with 3,000 users."

Crossmark Inc., a Plano, Texas-based company that provides merchandising and marketing services to consumer goods companies, has been using a data warehouse based on SQL Server 2005 for the past two years.

The data warehouse currently has 4.5TB of information and runs on a Hewlett-Packard server that can hold up to four Opteron dual-core processors, said Charlie Orndorff, Crossmark's vice president of infrastructure services.

"We're adding about a billion rows of data a month, which adds up to about 1.5TB a year," Orndorff said. He added that the growth rate "will only accelerate" as Crossmark adds more data sources and begins to import and manage more unstructured data.

Small Steps

Microsoft announced the following at the PASS conference:

- The release of a **"community technology preview"** of Service Pack 2 for SQL Server 2005, with support for Windows Vista and Office 2007.
- The availability of the release candidate version of **SQL Server 2005 Compact Edition**, a database for mobile devices.
- A plan to release its **Visual Studio Team Edition for Database Professionals** development tools to manufacturing on Nov. 30.

"It used to be rare that you could find a SQL Server database larger than a terabyte," said Kevin Kline, president of PASS. "Now there are hundreds and hundreds of multiterabyte SQL Server databases."

The supersize data warehouses that Microsoft is building will not only be large but fast as well, according to Souza. He said the company has shown in internal tests that it can load more than 1TB of data into SQL Server in a single hour. With the 270TB data warehouse, Microsoft hopes to be able to load data at a consistent rate of 3TB per day, he said.

Souza declined to disclose more details about the data warehouses, including their expected completion dates.

Although data warehousing users at the conference were generally positive about SQL Server 2005, Souza acknowledged that some customers that have upgraded to the new version from the previous SQL Server 2000 release aren't enjoying big performance gains, especially if they run highly transactional environments.

Microsoft plans to address that problem in future versions of SQL Server, said Paul Flessner, who plans to give up his job as senior vice president of the company's data storage and platform division effective Jan. 1 and take on a part-time role.

In a keynote speech, Flessner said Microsoft is working on "scale-out" clustering technology designed to make it easier for users to bring more servers online for greater transactional speeds. ▸

Microsoft Establishes Group to Push Interoperability

MICROSOFT last week announced that it has formed a vendor group in an effort to promote improved interoperability between software and hardware from other companies and its own products.

Twenty-four other vendors, including BEA Systems Inc., CA Inc., Novell Inc. and Sun Microsystems Inc., have agreed to join the Interop Vendor Alliance, according to Microsoft. It said the group, which was announced at a Microsoft conference in Spain, will hold technical meetings and Microsoft-hosted testing sessions that will attempt to replicate real-world problems faced by corporate users.

"We want to create a forum that creates an environment for getting things done," said Jason Matusow, Microsoft's senior director of interoperability. "Standards are important, but standards alone don't make things interoperable. And after-the-fact plug-ins are not satisfactory. We want to push scenario-based testing of actual shipping products."

But Matusow added that a group member can still decline to make its products work with those of another if it doesn't think interoperability would be in its business interest. "Just because one member holds out his hand to shake doesn't mean the other one has to take it," he said.

The group is also missing many of the top IT vendors. Notable holdouts include IBM, Hewlett-Packard Co., Google Inc., Oracle Corp., Red Hat Inc. and VMware Inc.

A spokeswoman said that Microsoft is in "conversations" with some of those companies about joining the alliance and that they are "still evaluating the opportunity."

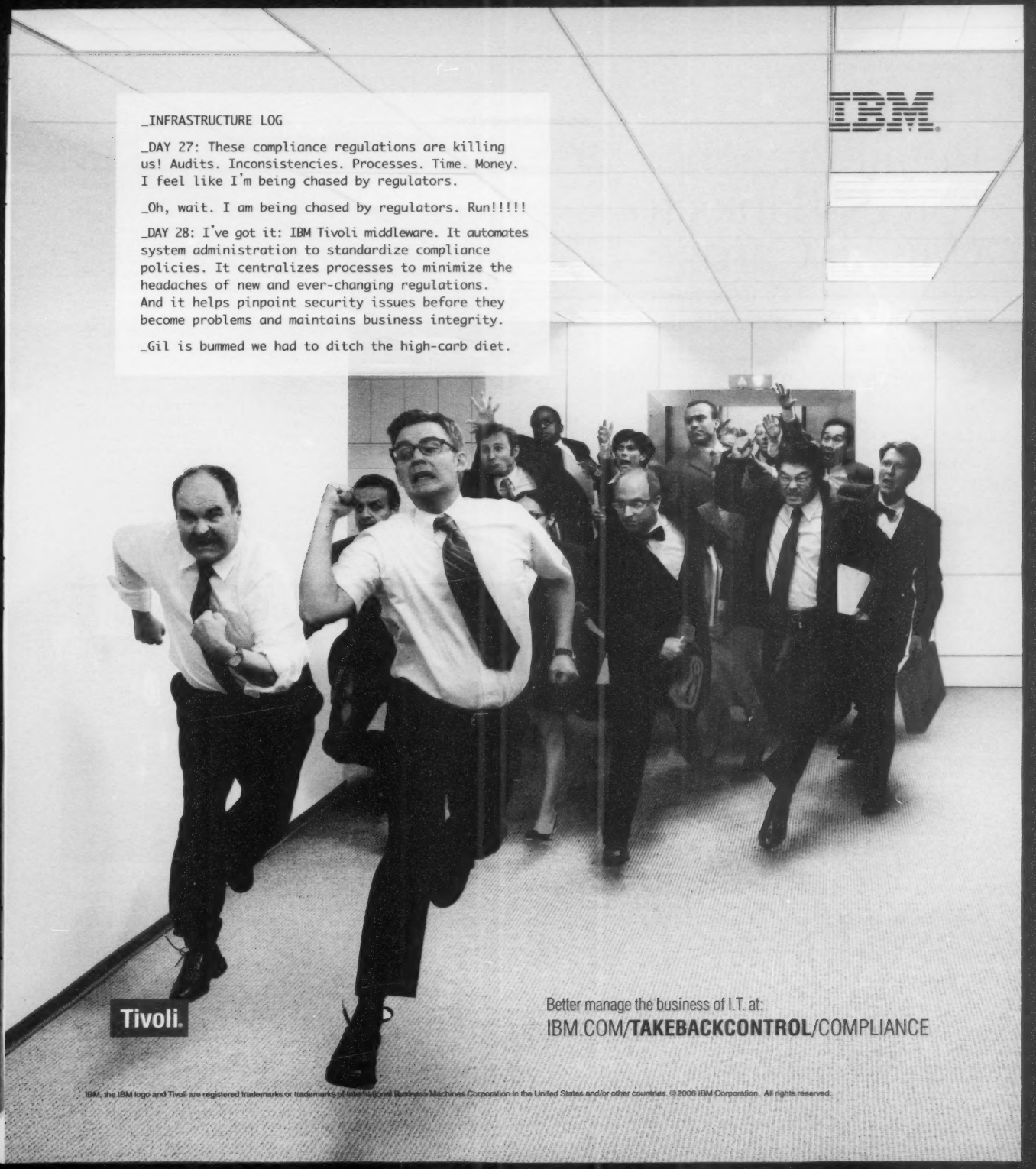
An Oracle spokeswoman declined to comment about the new group. IBM officials didn't respond to a request for comment sent via e-mail.

Last week's announcement was the second pro-interoperability move by Microsoft this month, following a Nov. 2 deal with Novell that included making Windows and SUSE Linux work better together.

On the other hand, the European Commission last week threatened to fine Microsoft if it doesn't submit missing documentation for interoperating with Windows by Thursday (see Global Dispatches, page 18).

Rob Helm, an analyst at Directions on Microsoft in Kirkland, Wash., said he thinks the company's interoperability intentions are sincere, even if that's partly because it faces market pressure "to be regarded as a good citizen in the data center."

– ERIC LAI


IBM
_INFRASTRUCTURE LOG
_DAY 27: These compliance regulations are killing us! Audits. Inconsistencies. Processes. Time. Money. I feel like I'm being chased by regulators.
_Oh, wait. I am being chased by regulators. Run!!!!!
_DAY 28: I've got it: IBM Tivoli middleware. It automates system administration to standardize compliance policies. It centralizes processes to minimize the headaches of new and ever-changing regulations. And it helps pinpoint security issues before they become problems and maintains business integrity.
_Gil is bummed we had to ditch the high-carb diet.
Tivoli.
Better manage the business of I.T. at:
IBM.COM/TAKEBACKCONTROL/COMPLIANCE
IBM, the IBM logo and Tivoli are registered trademarks or trademarks of International Business Machines Corporation in the United States and/or other countries. © 2006 IBM Corporation. All rights reserved.

Retail Breach Forces Banks to Cancel Cards

Data compromise in Michigan results in fraudulent credit, debit transactions

BY JAIKUMAR VIJAYAN

SEVERAL FINANCIAL institutions last week canceled thousands of credit and debit cards in Michigan because of fraud concerns related to an apparent data compromise at a convenience store chain, highlighting the wide effect that retail security breaches can have.

Fifth Third Bancorp, a large Cincinnati-based banking company, said it was reissuing debit cards to "a limited number" of customers in Michigan after being notified by MasterCard International Inc. of potential compromises. Two Muskegon, Mich.-based institutions, Community Shores Bank Corp. and Family Financial Credit Union, said they also replaced some of their cards after seeing evidence of fraudulent transactions.

The problems appear to have resulted from a security breach at Wesco, a Muskegon-based gas station and convenience store chain with 51 locations in Michigan. Wesco didn't respond to requests for comment. But in a note on its Web site, the company said it is "investigating the possibility of credit card fraud associated with card use at our facilities."

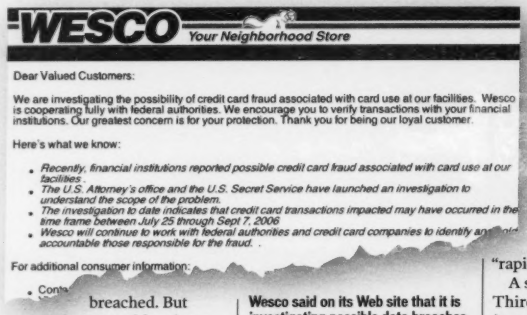
Investigation Launched

According to the note, credit card transactions processed between July 25 and Sept. 7 may have been compromised. Wesco said the U.S. attorney's office in Grand Rapids, Mich., and the U.S. Secret Service have launched an investigation in an effort "to understand the scope of the problem."

Both MasterCard and Visa USA Inc. confirmed that they were investigating a data breach in the Muskegon area, but neither would identify the retailer that was involved.

Sherri Campbell, vice president of deposit operations at Community Shores Bank, said she has spoken with some workers on Visa USA's fraud team about the possibility of Wesco being the source of the data compromise. But, she said, "nobody will admit to that yet. So it's up to everybody to infer what they want."

It also wasn't clear how the data might have been breached. But four out of five data compromises involve security breaches at point-of-sale systems, said Avivah Litan, an analyst at Gartner Inc. The POS systems at convenience and grocery stores, as well as gas stations, can be especially vulnerable because of a lack of IT security awareness and resources, Litan said.


WESCO Your Neighborhood Store

Dear Valued Customers:

We are investigating the possibility of credit card fraud associated with card use at our facilities. Wesco is cooperating fully with federal authorities. We encourage you to verify transactions with your financial institutions. Our greatest concern is for your protection. Thank you for being our loyal customer.

Here's what we know:

- Recently, financial institutions reported possible credit card fraud associated with card use at our facilities
- The U.S. Attorney's office and the U.S. Secret Service have launched an investigation to understand the scope of the problem.
- The investigation to date indicates that credit card transactions impacted may have occurred in the time frame between July 25 through Sept 7, 2006
- Wesco will continue to work with federal authorities and credit card companies to identify and hold accountable those responsible for the fraud.

For additional consumer information:

Wesco said on its Web site that it is investigating possible data breaches.

Much of the exposure results from merchants connecting their POS terminals to IP-based networks, Litan said. Often, such systems store magnetic stripe data from cards and have default passwords that can be easily hacked, she added.

The Payment Card Industry security standard explicitly prohibits the storing of magnetic stripe data on POS systems. But retailers continue to do so, and many POS applications store the data by default, Litan said.

Community Shores Bank asked about 550 customers to destroy their debit and credit cards after it noticed several of its cards being used to conduct fraudulent transactions, Campbell said. The fraud began two weeks ago and then started "rapidly increasing," she said.

A spokeswoman for Fifth Third said its decision to reissue cards to some customers was a precautionary measure. She declined to disclose how many debit cards were being blocked and reissued.

The problems in Michigan follow a worldwide wave of debit card fraud in February and March that also stemmed from a retail breach and forced financial institutions such as Bank of America Corp. and Citibank to cancel and reissue tens of thousands of cards.

Security Managers Facing More Targeted Attacks

BY JAIKUMAR VIJAYAN

A report on security threats released last week by the SANS Institute provides further evidence that cybercriminals are shifting to more targeted attacks and attempting to exploit zero-day flaws before software vendors patch them.

The report also cited a sharp increase in attacks against Web applications, Office installations and voice-over-IP systems. But overall, the trends suggest a switch from the "noisy" virus and worm attacks of the past to more covert attacks via Trojan horses and other malware, said Alan Paller, director of research at Bethesda, Md.-based SANS.

"There has been a large downturn in the number of alerts we have been pushing out" related to traditional security flaws, said Roger Cumming, director of the U.K.'s National Infrastructure Security Coordination Centre, which contributed to the SANS report.

Attackers are increasingly "moving toward developing exploit code with a specific purpose," Cumming said.

The risks highlighted by SANS "are all up there" from a security threat standpoint, said Ahmed El-Haggan, CIO at Coppin State University in Baltimore. The school is assessing its exposure to such risks and has hired an outsourcing vendor to do vulnerability scans of its networks to protect them against zero-day threats, said El-Haggan.

'Larger Chunk of Money'

The situation is similar at Medical Network One PC in Rochester, Mich. The bulk of the company's security technology investments this year were on perimeter defense products such as intrusion-detection systems, said Marcin Czabanski, the company's chief security officer. But zero-day and Web application threats also need close attention, he said.

Czabanski added that he expects Medical Network One to spend "a much larger chunk of money" next year on several major IT security projects, which he declined to specify.

Another report released last week, by Info-Tech Research Group in London, Ontario, forecast that U.S. companies will spend $61 billion on information security this year. Info-Tech surveyed about 1,000 IT managers, and the number of respondents who said they have increased their security spending this year was 10 times greater than the number who said their spending has been reduced, said Ed Daugavietis, a senior researcher at Info-Tech.

On average, the surveyed companies will spend 7.3% of their total IT budgets on data security this year, he said.

Last month, Forrester Research Inc. said its own survey of more than 1,000 IT managers showed that companies expect on average to spend about 7.75% of their IT budgets on security this year. That's down from 8.9% last year, according to Forrester.

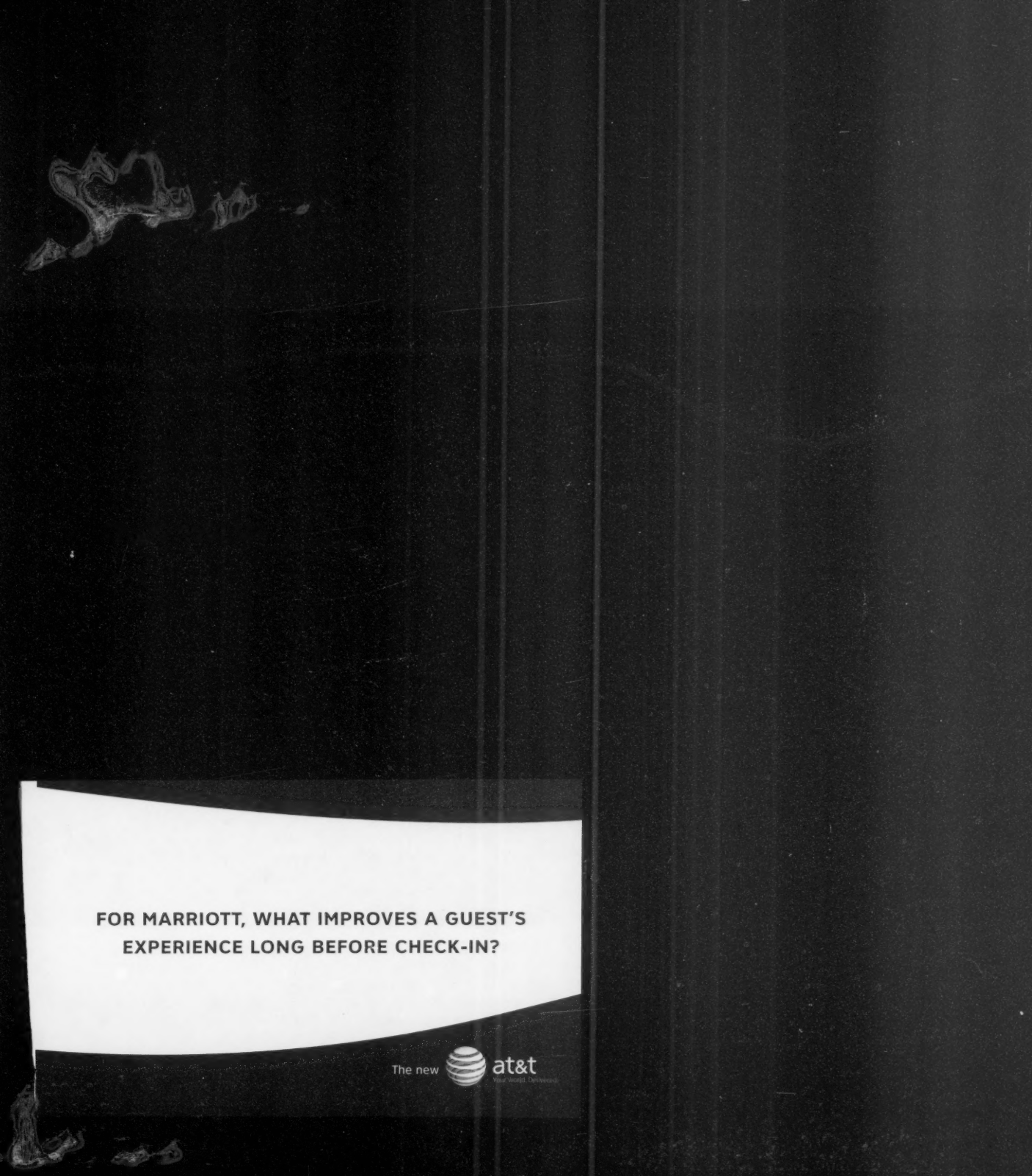
The problem with such numbers is that they don't always capture the true nature of security spending, said Robert Garigue, vice president of information integrity at Bell Canada in Montreal. For instance, IT upgrades that improve overall security are viewed by some companies as being a security investment, while others may not budget it the same way, Garigue said.

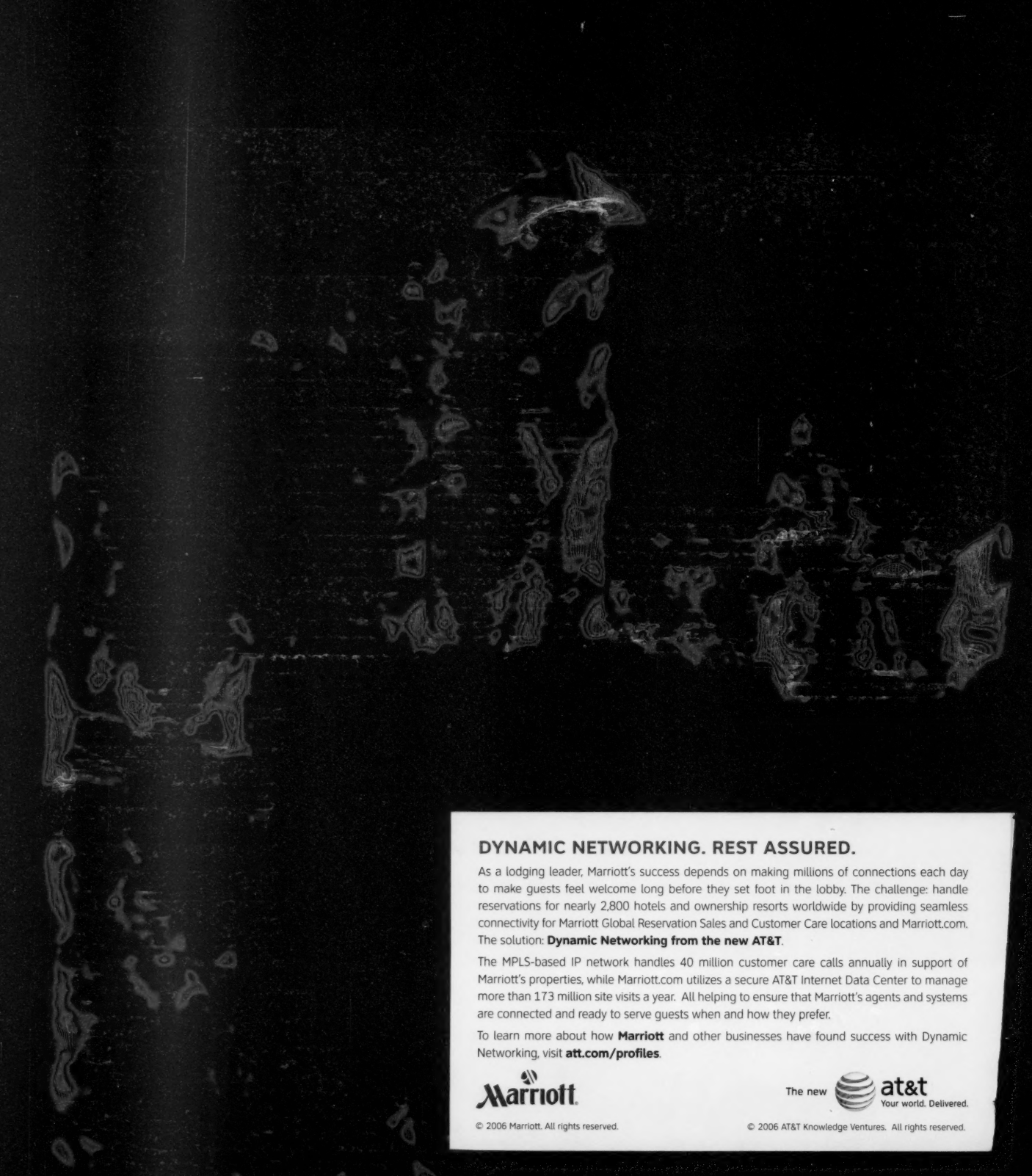
He noted that Bell Canada has been increasing its investments in network scanning and monitoring, risk assessment and diagnostics technologies, and will continue to do so next year.

Top Security Threats

- A surge in efforts to exploit zero-day vulnerabilities.
- Rapid growth in attacks targeting Microsoft Office.
- Continued shift from mass e-mail attacks to targeted attacks, mainly via Trojans.
- Increasing attacks against VoIP networks and Web applications.

SOURCE: SANS INSTITUTE, BETHESDA, MD.


FOR MARRIOTT, WHAT IMPROVES A GUEST'S
EXPERIENCE LONG BEFORE CHECK-IN?
The new
at&t



DYNAMIC NETWORKING. REST ASSURED.

As a lodging leader, Marriott's success depends on making millions of connections each day to make guests feel welcome long before they set foot in the lobby. The challenge: handle reservations for nearly 2,800 hotels and ownership resorts worldwide by providing seamless connectivity for Marriott Global Reservation Sales and Customer Care locations and Marriott.com. The solution: **Dynamic Networking from the new AT&T**.

The MPLS-based IP network handles 40 million customer care calls annually in support of Marriott's properties, while Marriott.com utilizes a secure AT&T Internet Data Center to manage more than 173 million site visits a year. All helping to ensure that Marriott's agents and systems are connected and ready to serve guests when and how they prefer.

To learn more about how **Marriott** and other businesses have found success with Dynamic Networking, visit **att.com/profiles**.

Marriott

The new at&t Your world. Delivered.

© 2006 Marriott. All rights reserved.

© 2006 AT&T Knowledge Ventures. All rights reserved.

The World According To Paulina
I am the router of potential.
I am a green light for progress.
I am the facilitator of success.
This is my world.
My world runs on
Dynamic Networking.
Dynamic Networking from the new AT&T enables Paulina to run multiple applications simultaneously and securely over a global IP VPN. Predicting traffic on the fly to maximize efficiency across the enterprise. Creating real-time responsiveness, greater performance and a green light to go full speed ahead. Learn how Dynamic Networking can enable your business.
att.com/networking
The new at&t
Your world. Delivered.

BRIEFS

Ex-HP Chairman Pleads Not Guilty

Patricia Dunn, former chairman of Hewlett-Packard Co., has pleaded not guilty to four felony charges. Dunn appeared in Santa Clara County Superior Court on charges that she ordered an investigation to identify HP board members who leaked sensitive information to the media. Kevin Hunsaker, a former HP lawyer, pleaded not guilty to the same charges on Nov. 7.

Former CA Exec Gets Seven Years in Jail

Stephen Richards, former head of worldwide sales at CA Inc., has been sentenced to seven years in jail after pleading guilty to financial fraud charges. He faced up to 100 years in prison, according to the U.S. attorney's office in New York. Earlier this month, Sanjay Kumar, former CEO of CA, was sentenced to 12 years in prison and fined $8 million on similar charges.

Cisco Buys Maker of Switch Processors

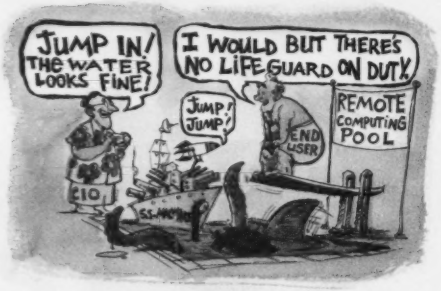
Cisco Systems Inc. has agreed to buy switch-silicon vendor Greenfield Networks Inc. for an undisclosed sum. Greenfield makes processors that can handle advanced functions in Ethernet switches. Greenfield employs 60 workers in Sunnyvale, Calif., and Bangalore, India, and is headed by CEO Bill Rossi, former head of Cisco's wireless networking unit. The company will become part of Cisco's Ethernet and wireless technology group.

Microsoft Unveils Scripting Tool

Microsoft Corp. has unveiled the final version of Windows PowerShell, a command-line shell and task-based scripting technology for administrative tasks in Windows. PowerShell scripts can be used to synchronize the date and time across workstations. PowerShell can be used with Microsoft Exchange Server 2007 and System Center Operations Manager 2007.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL



MATTHEW FAULKNER

Surveys Single Out IT for Blame . . .

. . . in a growing security crisis. If you oversee mobile, remote or wireless-based workers, odds are pretty good that a fair portion of them are engaging in risky systems behavior, according to one recent poll. Another scary survey found that IT leaders don't much care about the end-user shenanigans — or at least aren't doing much about them.

Road warriors, remote workers take security risks, says STEWART.

John N. Stewart, chief security officer at Cisco Systems Inc., hopes the results of a survey conducted last summer for the networking vendor will light a fire under IT and prompt improvements in remote security. But the results themselves may undermine those hopes. The poll involved 1,000 remote users and 1,000 IT professionals. Although 68% of the users claimed to be "more cognizant of security concerns" when working outside the office, 24% still open e-mail from unknown sources, 5% continue to open attachments in such messages, 45% download business files to their home PCs, and nearly one-fifth let others use their work machines. Worse, Stewart says, many of the users had an "unflattering" view of IT: 57% said their direct managers — not people in IT — should govern their remote computing habits. Actually, that might be a good thing, given the results of a study completed last quarter by the BPM Forum. You see, the poll of 680 IT execs at the director level or higher reveals that at a stunning 40% of their companies, IT doesn't have "anything in place to handle security and compliance for mobile devices," says Adriano Gonzalez, vice president of strategy and programming at the business process management trade association. And 70% of those respondents don't plan to change their ways, he notes. Gonzalez says he was "astounded" by those figures and concludes that "we don't have the adequate tools, processes and frameworks for controls around mobility." Stewart, however, remains optimistic. For example, he says IT can exploit the preference of end users for taking direction on security from their bosses by helping managers craft programs that reward good security practices. Gonzalez is less sanguine. He sees finger-pointing everywhere, with most of the digits aimed at IT. And he says that making security successful for remote workers will "require a cultural transformation."

25% of mobile devices have sensitive business data, say half of those polled by the BPM Forum.

It will be a snap to build mobile apps . . .

. . . that are easy to use and secure. Next year, that is. By mid-2007, SnapIn Software Inc. plans to deliver a mobile development and deployment environment that it claims will enable IT departments to create user-friendly and secure programs for smart phones, PDAs and other handhelds. Tom Trinner, vice president of product management and marketing at SnapIn, says that thus far, the company's software has been used in eight field trials by wireless carriers around the globe. Although SnapIn will sell the software primarily to telecommunications companies, there will be an enterprise version for IT users, he says. In addition to using the technology to guide end users through business apps, IT can have SnapIn automatically check handhelds to ensure that they're properly configured before loading a business program or accessing a Web site. Trinner quips that SnapIn also can apply the "ping of death" to a lost or stolen device to erase all data and render the device useless.

Excel hits the wall with . . .

. . . multidimensional calculations. Chris Houle, CEO of Subx Inc., which does business under the name Quantrix, claims that Excel "hits a snag" beyond two dimensions of data. Houle brags that his company's data modeling software can handle 16 dimensions within what Quantrix calls a matrix. A matrix, which resembles a spreadsheet, is where end users load data, create formulas and analyze the results. But unlike Excel, Quantrix doesn't apply formulas to individual cells. They're written in a separate, easy-to-review form and can be applied to any area in a matrix. Also, Quantrix sports an "assumptions table" that lets users understand the logic (or fantasy) behind the formulas and the data. The software starts at $329 per seat, and Houle says Quantrix will add dashboard views early next year so users can get live updates from its analytic tools.

HOULE claims Excel has limited dimensions.

Hold on: Excel is the window into . . .

. . . performance modeling. Max Kay, CEO of KCI Computing Inc. in Torrance, Calif., thinks so highly of Excel that he uses it as the user interface for Control, his company's corporate performance management software. Control takes input from your company's data sources and lets model-minded business analysts use a bevy of equations, algorithms and scripts that come with the software, or else write their own. In 2007, KCI will focus on adding features for international financial services firms, Kay says. Pricing starts at $33,000. ▸

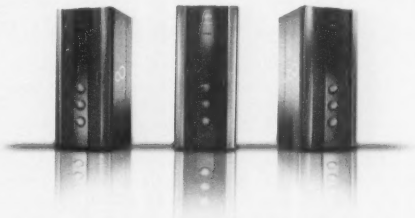
KAY: Use Excel as your interface to information.

End-to-end enterprise reliability.

Fujitsu PRIMEQUEST™ Servers. Proven reliability to span your enterprise needs.

Fujitsu PRIMEQUEST servers reflect our vast mainframe experience as well as our deep commitment to reliability. With up to 32 Intel® Itanium® 2 Processors each, these powerful, enterprise-class servers bridge the gap between the Microsoft® Windows® and Linux® applications you depend on and the mainframe-class scalability, performance, and reliability you need. Go to **us.fujitsu.com/computers/reliability2** for more information.

SYSTEM MIRROR *fault-immunity transparently guards against hardware errors*



LOWER TCO *with integrated facilities that simplify administrative tasks*

FUJITSU

THE POSSIBILITIES ARE INFINITE

intel Itanium 2 inside

© 2006 Fujitsu Computer Systems Corporation. All rights reserved. Fujitsu, the Fujitsu logo and PRIMEQUEST are trademarks or registered trademarks of Fujitsu Limited in the United States and other countries. Intel, Intel Logo, Intel Inside, Intel Inside Logo, Itanium, and Itanium Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Microsoft and Windows are registered trademarks or trademarks of Microsoft Corp. in the United States and/or other countries. Linux is the registered trademark of Linus Torvalds in the U.S. and other countries. All other trademarks mentioned herein are the property of their respective owners.

BRIEFS

Opti Charges AMD Infringed on Patents

Chip design company Opti Inc. has filed a lawsuit against Advanced Micro Devices Inc. claiming that AMD has infringed on three of its technology patents. Opti settled out of court in a similar case against Nvidia Corp. earlier this year. The complaint alleges that AMD made and sold processors and core logic products using Opti's predictive snooping technology. AMD could not be reached for comment.

NetApp Buys Topio For $160M in Cash

Network Appliance Inc. has acquired Topio Inc. for $160 million in cash. Topio makes the Data Protection Suite of tools, which are used for tasks such as data migration, backup consolidation and data recovery. Topio will be added to the Network Appliance line to help users migrate data from primary non-NetApp storage devices to NetApp devices.

Qualcomm Acquires Management Tools

Qualcomm Inc. has acquired nPhase LLC, a provider of machine-to-machine technology designed to help large businesses manage and monitor dispersed computing devices. Terms of the deal were not disclosed. Qualcomm will continue to offer products and services under the nPhase brand. NPhase was spun off of Professional Consulting Services Inc., an IT consulting firm, in 2003.

Motorola Buys DSL Equipment Maker

Motorola Inc. has agreed to acquire Netopia Inc., a maker of DSL equipment, for $208 million. Netopia develops wired and wireless modems, routers and gateways that deliver voice, video and data to residential and business customers. Netopia will become part of Motorola's Connected Home Solutions business when the deal is closed early next year.

Continued from page 1

IT and HPC

use supercomputing systems and typically have run them on an independent basis.

For instance, Matthew LeGendre, who develops performance measurement tools on a high-performance server cluster for academic research use at the University of Wisconsin, said at last week's SC06 supercomputing conference here that management of HPC systems by IT is an issue of "convenience vs. control."

LeGendre said some of the HPC systems at the Madison-based university are being supported by its IT department, but the help comes with strings attached. For instance, if IT managed the cluster that LeGendre uses, he wouldn't be able to install new operating systems as he sees fit. "It's one reason why we haven't used our IT department to help us [with] support," he said.

Learning to Adapt

But Sharan Kalwani, HPC infrastructure manager at General Motors Corp., said that supercomputing users and IT staffers will have to learn to work together. "HPC, now that it has become mainstream, [should] also start acting like it's mainstream," Kalwani said. He added that the benefits of adopting IT processes in HPC environments include improved quality, lower costs "and actually more wide acceptance" of the technology within companies.

Goran Pocina, a technical adviser at a large pharmaceuticals maker that he asked not be named, said his company has installed supercomputers at operations worldwide. The systems are managed locally by groups of researchers that don't share applications or processes with one another.

"The cost of maintaining this is tremendous," Pocina said, adding that he thinks the company could improve researcher productivity and cut costs if IT played a role in managing the supercomputers.

But the problem with putting IT managers in charge of HPC systems is figuring out how to apply IT disciplines and measurements "to a research community of users

Global Outlook

2010 spending forecast for high-performance computing systems, by region

SOURCE: IDC, FRAMINGHAM, MASS.

> **HPC, now that it has become mainstream, [should] also start acting like it's mainstream.**
>
> **SHARAN KALWANI,** HPC INFRASTRUCTURE MANAGER, GM

where quality isn't measured by how stable the environment is but on how quickly it can adapt and change," Pocina said.

Many of the people who build and use supercomputers and HPC clusters live in a different world than mainstream IT does, according to Pocina and other SC06 attendees.

Micah Nerren, a consultant at Machl Computing LLC in Irvine, Calif., said he often works as a go-between to bring together IT managers and HPC groups that lack the management skills needed to run IT operations and that may not know how best to integrate their machines with business systems. "You have to educate them a bit about how to coexist peacefully . . . and educate IT [about] why this is a unique user," Nerren said.

At SC06, Kalwani conducted a four-hour tutorial intended to give HPC users an idea of what to expect when working with their IT departments. He reviewed IT management basics, such as return on investment, service-level agreements and portfolio management. Kalwani also tried to prepare users in the audience for the cultural changes that can result from working with IT.

IT managers typically "want the lowest-cost solution, and that's a battle you find starting from Day One," he said. IT officials may also have trouble understanding some of the goals of researchers who use HPC systems, he noted. Many IT managers, "despite the 'T' in IT, surprisingly are not technical," Kalwani warned. "They're almost bureaucratic."

Irving Wladawsky-Berger, vice president of technical strategy and innovation at IBM, said that as HPC installations expand further and supercomputing technologies are increasingly used for commercial applications, corporate CIOs will have to learn more about the systems.

"Traditional CIOs need more of the kinds of skills that before were only found in the HPC world," such as an understanding of the mathematical approaches used in high-performance systems, Wladawsky-Berger said. He added that he thinks visualization capabilities and other functionality used in research settings will increasingly migrate into e-commerce systems and other mainstream applications.

Vendors Hope Turnkey Systems Fit HPC Users

TAMPA, FLA.

FOR MANY USERS, building high-performance computing systems has been largely a do-it-yourself operation. But now HPC vendors are paying more attention to delivering out-of-the-box clusters in an effort to encourage wider adoption, especially among new users.

Longtime HPC users said at the SC06 conference here last week that turnkey systems have always been available but that the increasing use of blade servers and other systems that can be easily integrated by vendors is facilitating the out-of-the-box trend.

Sun Microsystems Inc., Silicon Graphics Inc. and Linux Networx Inc. are among the vendors offering turnkey systems. SGI last week said it will ship an integrated system with four quad-core Xeon processors in a single chassis in next year's first quarter. Linux Networx introduced a series of ready-to-run HPC systems tuned for applications such as computational fluid dynamics and crash and impact analysis.

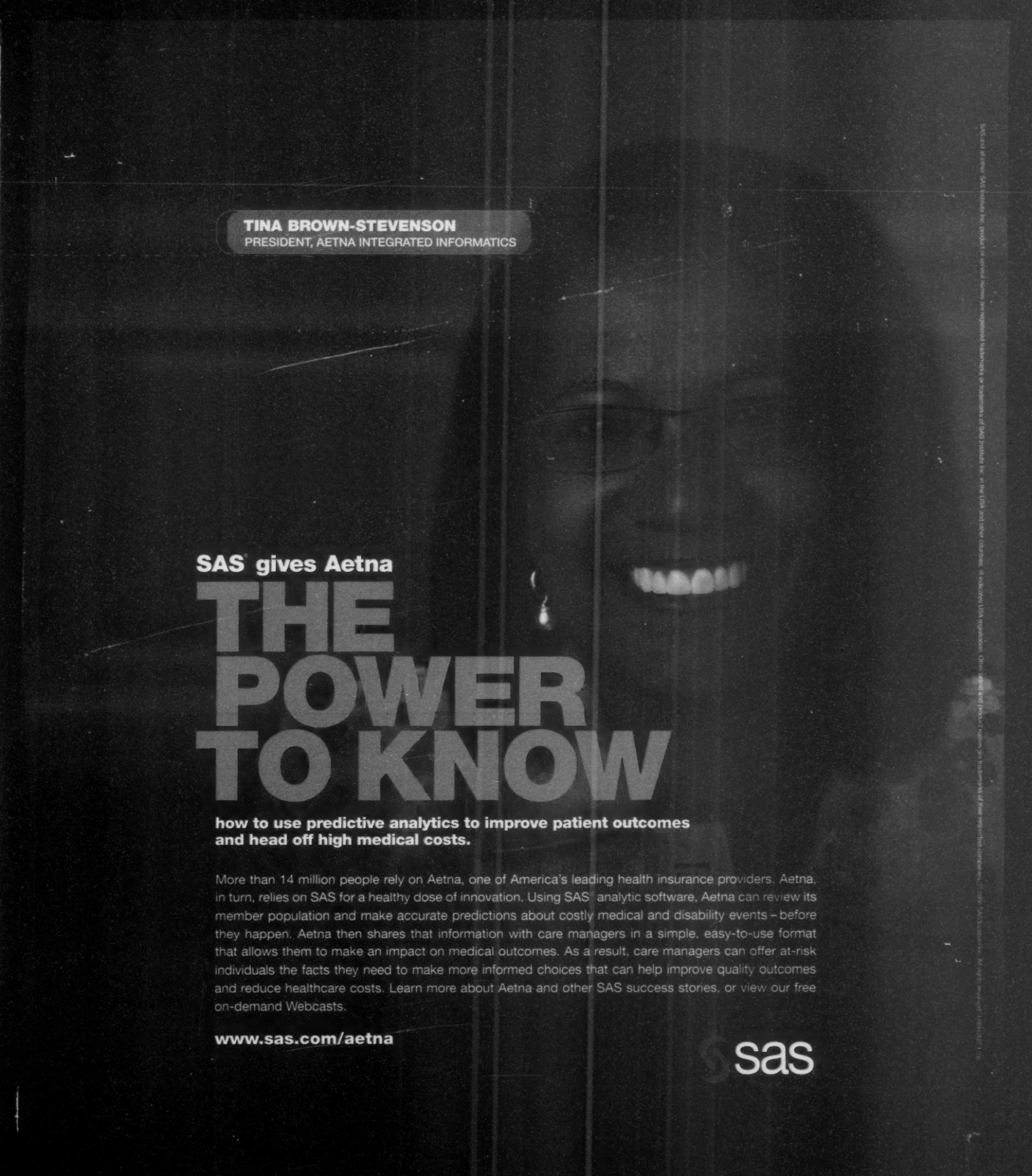
"From a cutting-edge perspective, it's unclear whether or not any in-the-box solutions will maintain speed with the innovations," said Terry McLaren, a program manager for the cyber environments group at the National Center for Supercomputing Applications. Nonetheless, the NCSA, which is located at the University of Illinois at Urbana-Champaign, is evaluating the turnkey systems because of their ease of use, McLaren said.

Roger Smith, a senior systems administrator at Mississippi State University's High Performance Computing Collaboratory, recently installed a system consisting of 500 Sun Fire x2200 servers equipped with a total of 1,024 Opteron dual-core processors. Smith said the school opted for a prebuilt system developed through Sun's Customer Ready Systems program as part of a joint demonstration project.

The system was set up three weeks ago in a single day, Smith said. All that had to be added was some networking hookups that weren't ready when it was delivered. Smith's major concern was whether Sun would configure the system exactly as the school wanted it, but he said he visited a Sun facility in Oregon "to assure ourselves that they were going to do a good job."

Hassan Assiri, director of high-performance computing at Seneca College in Toronto, said he expects that turnkey cluster users will have to pay extra for the systems. But, he added, that might make economic sense compared with having to deal with multiple vendors or hire new staffers to do an installation.

– PATRICK THIBODEAU


TINA BROWN-STEVENSON
PRESIDENT, AETNA INTEGRATED INFORMATICS
SAS® gives Aetna
THE POWER TO KNOW
how to use predictive analytics to improve patient outcomes and head off high medical costs.
More than 14 million people rely on Aetna, one of America's leading health insurance providers. Aetna, in turn, relies on SAS for a healthy dose of innovation. Using SAS® analytic software, Aetna can review its member population and make accurate predictions about costly medical and disability events – before they happen. Aetna then shares that information with care managers in a simple, easy-to-use format that allows them to make an impact on medical outcomes. As a result, care managers can offer at-risk individuals the facts they need to make more informed choices that can help improve quality outcomes and reduce healthcare costs. Learn more about Aetna and other SAS success stories, or view our free on-demand Webcasts.
www.sas.com/aetna
sas

E-health Chief Says Prototype of National Network Due in January

BY HEATHER HAVENSTEIN

Robert Kolodner *was named interim national coordinator for health information technology at the U.S. Department of Health and Human Services in September. He replaced David Brailer, the first person to hold the post. Kolodner was previously chief health informatics officer at the U.S. Department of Veterans Affairs. In an interview with* Computerworld *last week, he talked about the state of the federal government's effort to encourage widespread adoption of electronic medical records technology and the development of a Nationwide Health Information Network (NHIN) for sharing health data.*

What is the status of the NHIN effort today? David Brailer and the team laid out a very aggressive agenda. We are nearing the end of the contracts [to develop NHIN prototypes]. We already have collaboration going with the National Committee on Vital and Health Statistics, and they have been looking at some of the [NHIN] functional requirements. We will be having the demonstrations of prototypes in January. From the prototypes, we will draw a necessary set of requirements . . . to move us forward to a functioning NHIN in the future.

What do the prototypes look like? We are still in the process of reviewing those. We're in the process of finalizing the next steps and hope within the next month we'll be able to let everyone know what we're planning on doing.

What are the biggest challenges to President Bush's mandate that all citizens have an electronic medical record by 2014 and that a national network be created for sharing those EMRs? There are a couple of barriers that form the basis of our activities within the office. A key part has been the lack of standards for data and technical support for the network. We're in the process of developing and growing those. We also have the process [for adopting] those standards. The [Certification Commission for Healthcare Information Technology] is the means by which we encourage [EMR] vendors to build those standards into their products. Thirty-five products have been certified, and we expect another round before going to next year's criteria.

Does your experience in the VA mean that you won't depend on the private sector to take the lead in the NHIN effort? If you look at all the initiatives we have in place, they are public-private collaborations and activities. We have very active participation in the effort with the public and private sectors, with the majority being the private sector. The NHIN work is done by contract; it is all done in the private sector.

You were appointed as "interim" coordinator in September. What is your status now? I was detailed at the HHS secretary's request from the VA. The detail is for a few months. I am in the middle of the detail now.

How will regional health information organizations fit into the NHIN plan? That is an emerging model that we see. We expect the activity needs to occur at a local, regional and state level. The NHIN is then an enabler that links across those regional activities and makes sure they are fully interoperable. ◗

Continued from page 1

OU Firings

cation network services at OU, and Todd Acheson, the school's former Unix systems manager, that she supported the decision by CIO William Sams to fire the two men on grounds of "nonfeasance" of their duties.

"I must conclude that responsibility for designing and maintaining a secure network resided in your office," Krendl wrote. The finding of nonfeasance "does not indicate any intentional or purposeful wrongdoing," she added. "It does not indicate that you intended to put our data at risk, but in fact, that was the result of failing to take the necessary proactive steps to protect confidential information."

Krendl, who has final authority on worker firings under OU's policies, couldn't be reached for further comment last week. Both Sams and a spokesman for the Athens, Ohio-based school declined to comment on the decision.

Reid said Krendl's decision was "pretty much what I expected," despite the grievance committee's recommendation that he and Acheson be rehired. "I'm disappointed that Provost Krendl didn't take the time to do the right thing," he said. "But I'm not surprised. [Her] action is consistent with the unethical and unfair treatment by the university of me and Todd Acheson."

Asked if Krendl's decision would end the matter, Reid said he is still evaluating his options, including the possibility of further legal action.

A 'Shameful' Decision

Frederick Gittes, a Columbus, Ohio, attorney representing Acheson, called the decision to uphold the firings both "shameful" and "predictable."

"The provost and the other members of the OU administration are prepared to destroy lives in order to cover up their own failures," he said. "This is a kangaroo review. It demeans the process on the [grievance] committee because it doesn't really address their findings."

Krendl's letter to Acheson "provides no information" about how he was responsible for the technical shortcomings in the university's systems, Gittes said. He contended that as CIO, Sams was ultimately responsible for the school's IT security weaknesses.

A total of five security breaches came to light at OU in April, May and June, including a break-in on a server that supported alumni relations. Personal data on about 137,000 people was exposed by the break-in, which went undiscovered for more than a year.

A similar incident on a system at the school's health center may have exposed the Social Security numbers, dates of birth, patient IDs and clinical information of nearly 60,000 people.

Acheson and Reid were suspended from their jobs in June and then fired. In addition to their internal grievances, a lawsuit has been filed against the university on their behalf in a county court, claiming that a consultant who investigated the breaches didn't save his notes as required by law.

The grievance committee at OU said in a letter dated Oct. 1 that the claims of nonfeasance against Acheson and Reid were unfounded based on the information it had seen. There was "ample evidence," the committee wrote, that both men were fulfilling the security roles listed in their job descriptions and that the university's security problems didn't result from their work.

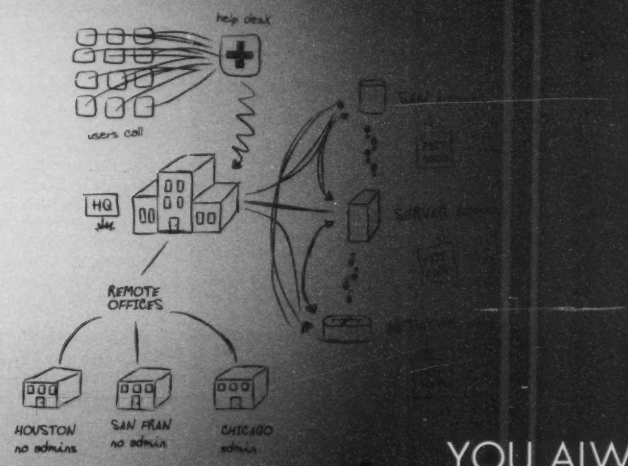
The grievance panel recommended that Acheson and Reid be given back pay and benefits and that OU "should make a good-faith effort to find suitable employment" for them. It also criticized Sams — who in July said that he plans to resign from OU once a new CIO is found — for not recognizing and addressing serious problems within the school's IT organization before the security breaches were discovered.

However, Krendl wrote in her letters to Acheson and Reid that responsibility for developing a secure network and protecting sensitive data lies "within the purview of those who oversee and maintain the network. Based on the repeated data breaches, it is clear that we had not designed or implemented the necessary protections." ◗

DISMISSALS DISPUTED

> "I must conclude that responsibility for designing and maintaining a secure network resided in your office."
>
> OHIO UNIVERSITY PROVOST KATHY KRENDL, IN THE LETTERS SHE SENT TO FORMER IT MANAGERS TODD ACHESON AND THOMAS REID UPHOLDING THEIR FIRINGS

> "I'm disappointed that Provost Krendl didn't take the time to do the right thing. But I'm not surprised."
>
> REID, IN REACTION TO KRENDL'S DECISION



intel
Xeon inside
Dual-core. Do more.

YOU ALWAYS HAD THE BRAINS.

Introducing the new HP BladeSystem c-Class with Insight Control Management.

The new, intuitive HP BladeSystem c-Class thinks just like you do — letting you monitor your infrastructure while helping to analyze your future needs. First, HP's OnBoard Administrator gives you out-of-the-box setup and configuration combined with power, cooling and enclosure management. After that, the Insight Control software steps in to let you control the rest of your environment, locally or remotely. And thanks to the integrated Insight Display — our unique LCD screen — you can interact right at the source to manage, deploy or troubleshoot.

Simply plug in the HP ProLiant BL460c server blade, featuring Dual-Core Intel® Xeon® Processors, and you'll get faster performance and versatility to support 32- and 64-bit computing environments. Use the HP BladeSystem c-Class for your business and you'll experience greater control over your time and resources.

To experience the HP BladeSystem and download IDC White Papers, go to **YouAlwaysHadIt.com/brains4**
Call 1-866-625-4090 or visit your local reseller

hp

Dual-Core is a new technology designed to improve performance of multithreaded software products and hardware-aware multitasking operating systems and may require appropriate operating system software for full benefit; check with software provider to determine suitability; not all customers or software applications will necessarily benefit from use of this technology. Requires a separately purchased 64-bit operating system and 64-bit software products to take advantage of the 64-bit processing capabilities of the Dual-Core Intel Xeon Processor. Given the wide range of software applications available, performance of a system including a 64-bit operating system will vary. Intel's numbering is not a measurement of higher performance. Intel, the Intel Logo, Xeon and Xeon Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. The information contained herein is subject to change without notice. ©2006 Hewlett-Packard Development Company, L.P.

Borland Kills Plan To Sell Tools Unit

Bids come in below expectations; tools moved into new CodeGear subsidiary

BY HEATHER HAVENSTEIN

IN AN about-face, Borland Software Corp. last week announced that it will not sell its development tools unit and has instead turned it into a wholly owned subsidiary called CodeGear.

Borland in February had put the tools division on the block to focus on its application life-cycle management (ALM) business.

Rick Jackson, Borland's chief marketing officer, said that the development group attracted five serious bidders, but in the end, the company "did not feel we were going to receive the appropriate value."

According to Borland's financial statements, the tools business generated revenue of about $15 million during the third quarter, which ended Sept. 30, down from $24.4 million in the first quarter of 2006. ALM revenue totaled $54.7 million in the most recent quarter, according to the statements.

The new subsidiary, known as CodeGear, is already operating. It's responsible for the development and sales of Borland's Developer Studio, which includes the Delphi, C++Builder and C#Builder tools, as well as the JBuilder, Turbo and InterBase development products.

> **We have migrated away from JBuilder because we needed to get to Eclipse faster than Borland was getting there.**
>
> KELVIN BURTON, CTO, MERCY SHIPS

Kelvin Burton, chief technology officer at Mercy Ships, a nonprofit medical relief agency based in Lindale, Texas, said the move is a good one for Borland, but it came too late for his organization.

Mercy Ships had used JBuilder for several years before migrating to the Eclipse Foundation's open-source integrated development environment (IDE) earlier this year, Burton said. "We have migrated away from JBuilder because we needed to get to Eclipse faster than Borland was getting there," he added.

Burton said his organization, which is using several plug-ins for Eclipse, was waiting for Borland's Eclipse-based JBuilder product, which "was supposed to be ready late last year and then the beginning of this year. Then it went into a black hole."

CodeGear

The new Borland development tools subsidiary:

- Is led by new CEO Ben Smith, who has been working with the developer tools group for the past 12 months as a consultant.
- Has a separate brand, management team, R&D organization, sales and marketing strategy and operating structure.
- Is based in Scotts Valley, Calif.
- Is now operating.

"We had given up waiting," he said. "We couldn't slow the developers down while we waited for Borland to deliver a solution."

Tom Nohelty, vice president of IT at Stevens Point, Wis.-based Travel Guard Group Inc., a unit of American International Group Inc. that provides travel insurance, said the move shows that Borland "cares enough about their customers that they will not leave them high and dry."

Travel Guard began using Borland's Tempo IT governance tool in April. It does not use Borland's development tools.

"They obviously are looking to create more focus in each of their product lines," Nohelty said. "The fact that they have control over the development tools group also allows them to keep the development tool experience as part of the application life-cycle management product line."

Carey Schwaber, an analyst at Forrester Research Inc., said the decision to retain the tools group will help Borland "find their own way to profitability."

"The development tools business was a drag on the ALM business in that it made total Borland numbers look worse and it required significant care and feeding," she said. While the tools business is a source of some revenue, Schwaber said, it is not a growing business, "which means it's not very attractive to most likely buyers."

Spinning out the tools business as a subsidiary balances Borland's need to insulate itself from the business while at the same time coordinating the development of IDE tools, she added. ◗

Pol Blames E-voting For Shutout at Polls

Small-town candidate says his own vote — for himself — wasn't counted

BY TODD R. WEISS

With only 36 registered voters casting ballots on Election Day, every vote mattered in the town of Waldenburg, Ark., population 80.

So when resident and local bar owner Randy Wooten ran for mayor of the town, he was shocked when he received nary a vote in the final count — not even his own. His wife, Roxanne, said she voted for him too, so he should have had at least two votes, they say.

Yet when the votes cast on the touch-screen electronic voting machine were tabulated, two other candidates had received 18 votes each, and Wooten not a one.

Over the next week, Wooten, 51, asked local election officials what could have happened to his vote and attended an official recount. So far, he said, no one has been able to explain what happened, which on a small scale reflects a similar situation in Sarasota County, Fla., where some 18,000 voters were not recorded as casting ballots in a Congressional race.

Wooten's wife had her own idea of what went wrong.

"The machine was really touchy," she said. "When you touched one [candidate's name], it would jump to the next [candidate]. If you didn't touch it just right exactly where you were supposed to, it would jump. In other words, whoever voted for him just wasn't careful enough. It makes you wonder about all of them."

Roxanne Wooten said that when she saw a review screen of her votes, she was able to catch one error and correct it. But that still doesn't explain what happened to her vote for her husband, she said.

Election officials in Poinsett County, Ark., said the matter is still being reviewed.

Paper Trail

A spokeswoman for the maker of the touch-screen machine, Omaha-based Election Systems & Software Inc. (ES&S), said that "there was no problem with the equipment, period," based on an analysis of the paper voting logs in the machine. In a recount, officials can see the paper records and see where a voter selected a candidate or deselected a candidate, she said.

A recount last Monday night confirmed 18 votes for incumbent Mayor William Wood, 18 votes for challenger Ronnie Chatman and no votes for Wooten.

"We're covering all the possibilities," said J.C. Lassiter, a county election commissioner. "We're doing everything in our power."

It was only the second time that the town had used the ES&S iVotronic Touch Screen Voting System, which first replaced paper ballots in Waldenburg in the spring primary election earlier this year, Lassiter said.

Wood discounted Wooten's concerns. "According to the machine, Mr. Wooten did not vote for himself," Wood said. "And Mrs. Wooten did not vote for him."

"He made up the story," Wood said, arguing that "if Wooten would have voted for himself, it would have thrown the election to me" by taking a vote from challenger Chatman.

For Wooten, the whole situation has become an embarrassment. "I think I'm going to let it go," he said. "Everybody here is making me feel like a fool. After a while, it just gets tiresome."

Wooten said he ran for mayor — his second attempt — to "try to do things for the town." As the owner of Randy's Karaoke Bar on Highway 14 — called the Honey I'm Home Cafe until three years ago — Wooten said he wanted to try to entice new residents to the small town, where he has lived for about 11 years. ◗

Efforts to Improve Corporate IT Processes Boost BMC's Bottom Line, Says CEO

18-year company veteran also touts the benefits of promoting homegrown execs

BY MATT HAMBLEN

BMC Software Inc. this month announced strong results for its second fiscal quarter, including a 36% jump in profits to $58.2 million and a 7% increase in revenue to $387 million. In an interview with Computerworld, **Robert Beauchamp**, *CEO of BMC since 2001, attributed the results to the company's sales of software that manages IT processes and to customers' efforts to cut back on IT suppliers, among other things.*

What are some reasons for BMC's recent financial success? It started four years ago when we conceived Business Service Management [BSM] products. We knew that the Information Technology Infrastructure Library [ITIL] and IT process optimization was going to become a central focus of IT. We built an entire product portfolio and a whole strategy around software to manage IT processes and ITIL optimization. We saw in the last quarter that Chevron has a strong initiative around ITIL implementations trying to consolidate their service desks around the world. It resulted in a seven-figure transaction for us. CIOs now talk more about IT process improvement than about infrastructure.

How have CIOs changed their spending habits since the recession early in this decade? I think that there is still pressure to reduce costs in IT. A large government agency that is a customer told me last week that it views spending on IT as non-mission-critical. They see with service center and IT standardization software [that] they can pull $25 million out of IT and give it back to use for mission-critical needs.

What do customers look for from BMC in particular and the management software industry in general? I'll answer by telling what [a top IT official at] UBS said to me in 2002: "We have two server vendors, two database vendors, two ERP vendors and 52 management tools vendors, and none of you can tell me how my business is performing." He added that the first company that delivers "an integrated way of managing my IT infrastructure and my IT processes to my business services will make a lot of money." So we began to build that. That's one reason we acquired Remedy. He told me to "please simplify the IT management layer, map the IT processes to my businesses services, simplify the thing for me."

Does IT service management bring with it the possibility of a backlash from IT workers laid off as a result of the automation of their tasks? Every company in the world has to ask humans to add value for competitive differentiation. If a company uses BSM, they can free up employees for work that's core to the company. IT shops are the cobbler's children. They are the least automated department in any company.

How important is it for BMC products to interoperate with those of other vendors? Do we interoperate? Yes, and we always have. Our software should be a heterogeneous abstraction layer. The configuration management database is the single hottest topic in IT right now, and BMC has joined a consortium of all the major players to set standards around the CMDB.

What is BMC's strategy for mobile devices and mobile services? The CIO used to have the challenge to manage hundreds of devices, and now it might be hundreds of thousands. The question is whether you want to manage each type of device in a separate silo or come back to a central location. We are already doing that, tracking mobile devices and desktops with the Remedy [IT service management] suite of products.

Has your long career at BMC – 18 years – served you well as CEO? I don't have to spend a lot of time being educated on things that I know already. I don't have to sit in meetings where you spend the first half of it educating me. I already know the business. I've run marketing, R&D, and mergers and acquisitions. I've spent much of my career in sales. I know this company inside and out. We can focus on growing and changing and on customers.

What does BMC most need to improve upon? We're already focused on simplifying our business, everything from the customer experience with contracts and quotes to support, even though we are still rated at the top on support. We could do better getting the message about BMC out. When we get in front of the CIO, we win business, but [we] need more face time. ▸

Wholesaler Set to Use RFID to Track Drugs

BY HEATHER HAVENSTEIN

One of the nation's largest pharmaceutical wholesalers last week announced plans to launch a pilot program that uses radio frequency identification (RFID) technology to track drugs through the distribution process.

AmerisourceBergen Corp. in Chesterbrook, Pa., is creating what it calls a track-and-trace program that uses IBM's WebSphere middleware, software that is embedded on RFID readers and IBM's Electronic Product Code Information System (EPCIS) technology. The system will also use software from VeriSign Inc. to authenticate transactions, the company said.

Once the full pilot is in operation, AmerisourceBergen expects the system to help secure its drug supply chain from theft and tampering, said Shay Reid, vice president for integrated solutions.

AmerisourceBergen plans to start using parts of the system early next year at its largest distribution center, which is in Sacramento, Reid said.

A Complete History

The track-and-trace system will scan RFID tags used by pharmaceutical manufacturers on cases carrying drugs as they enter the Sacramento warehouse, Reid said. As drug orders leave the warehouse, the readers will record the departure time and destination of each RFID-tagged unit, providing the company with a complete history of tagged drugs that were stored in the warehouse, he added.

"We're hoping to establish an electronic chain of custody for each individual unit of drug that is tagged," Reid said.

> "The benefits will come across the board. There are benefits in being able to track shipments that we can't currently track."
>
> **SHAY REID,** VICE PRESIDENT FOR INTEGRATED SOLUTIONS, AMERISOURCEBERGEN

AmerisourceBergen plans to have some components of the system working by January, with the reading of RFID tags set to start in March, Reid said.

The pilot program will also include linking AmerisourceBergen's track-and-trace system to those used by five drug manufacturers during the first half of 2007.

Reid declined to name the manufacturers or disclose the cost of the project.

In addition to securing the drugs throughout the supply chain, the track-and-trace system is also expected to provide real-time receiving and shipping information to help AmerisourceBergen and its manufacturing partners better track inventory, he said.

"The benefits will come across the board," he said. "There are benefits in being able to track shipments that we can't currently track."

AmerisourceBergen plans to expand the use of the track-and-trace system to its other distribution centers but has not set a timetable for the expansion, Reid said.

Chris Clauss, IBM's EPCIS solution executive, said that pharmaceutical wholesalers like AmerisourceBergen have been more aggressive than drug manufacturers when it comes to using RFID technology to secure supply chains.

IBM also works with Cardinal Health Inc., another of the country's largest pharmaceutical distributors, on a similar system, he noted.

"Those [wholesalers] who don't have to buy the [RFID] tags actually want it to go faster than those who do have to buy the tags," he said. ▸

GLOBAL DISPATCHES

An International IT News Digest

EC Sets New Deadline On Info From Microsoft

BRUSSELS

THE EUROPEAN COMMISSION last week threatened Microsoft Corp. with daily fines of €3 million ($3.9 million U.S.) if it doesn't submit overdue interoperability documentation for Windows by Thursday.

The commission said it "expects the remaining omissions and deficiencies in the technical documentation to be remedied by Nov. 23 so that by the end of November, the entire set of technical documentation will be available for potential licensees to review."

The EC's edict is the latest in a string of deadlines it has imposed over the past two years in an effort to force Microsoft to provide information that would allow rival vendors to develop server software programs that can interoperate with Windows.

Since the EC's March 2004 ruling that Microsoft had violated European competition laws, the company has been fined €777.5 million ($995.8 million) for failing to submit all of the documentation sought by the commission.

Microsoft didn't comment specifically about the new deadline in a statement last week. But the company said that it "is committed to full compliance with the commission's March 2004 decision and [is] working closely with the commission and the monitoring trustee toward that goal."

■ PAUL MELLER, IDG NEWS SERVICE

Intel Upgrades Its Plans For Vietnam Chip Plant

HO CHI MINH CITY, VIETNAM

INTEL CORP. this month announced that it will build a much larger and more expensive semiconductor test-and-assembly plant here than its initial plans called for.

The company now plans to spend $1 billion to build a 500,000-square-foot facility in Ho Chi Minh City. Last February, Intel had said that it would build a 150,000-square-foot plant at a cost of about $300 million.

According to Intel, company officials decided to increase the size of the plant after determining that the larger size would allow the facility to operate more efficiently. The plant in Vietnam will serve as a model for future Intel test-and-assembly operations, the chip maker added.

Construction is scheduled to start in March, and Intel expects the plant to open in 2009 and employ up to 4,000 workers. The Ho Chi Minh City facility will be Intel's seventh test-and-assembly plant worldwide. The company also has operations in Malaysia, the Philippines, China and Costa Rica.

■ SUMNER LEMON, IDG NEWS SERVICE

GLOBAL FACT

$4.2B

Projected spending on security software in Europe, the Middle East and Africa in 2010, reflecting a compound annual growth rate of 10.9% from last year's total of $2.5 billion.

SOURCE: GARTNER INC.

Microsoft, Indian Firm To Offer Hosted Apps

NEW DELHI

MICROSOFT and Bharti Airtel Ltd., a telecommunications service provider based here, have agreed to jointly offer a set of hosted software and services for small and midsize businesses in India.

Bharti Airtel last week said the two companies will pair enterprise-class software with connectivity services and market the bundles to businesses that don't have dedicated IT resources in-house. The hosted offerings are expected to become available in January, the telecommunications vendor added.

Microsoft's software will be hosted and managed by Bharti Airtel, according to a spokesman for Microsoft India. Initially, the companies will offer basic hosted services such as e-mail, calendaring and scheduling, he said.

Later, Microsoft and Bharti plan to add ERP, accounting and customer relationship management applications, plus select applications from Microsoft business partners.

The pricing model for the hosted services has yet to be worked out, the Microsoft spokesman said.

■ JOHN RIBEIRO, IDG NEWS SERVICE

Germany Gets Warning Over Proposed Measure

BRUSSELS

THE EUROPEAN Commission has sent a letter to the German government warning it not to grant Deutsche Telekom AG an exemption from European Union rules designed to improve competition in the telecommunications business.

A proposed German law would allow Deutsche Telekom to deny rivals full access to a new high-speed broadband network while the company recoups its estimated €3 billion ($3.8 billion U.S.) investment in the network.

The EC has "serious concerns about the proposal," commission spokesman Martin Selmayr said at a press conference this month. He added that if the law is passed, the EC will "have no choice but to open infringement proceedings" that ultimately could lead to legal action at the European Court of Justice, including a request for daily fines to be imposed against the German government.

The written notice from the EC expands on a verbal warning that Viviane Reding, the commissioner in charge of telecommunications issues, gave the German government in a speech here in June.

Deutsche Telekom has said that it will stop the planned expansion of its broadband network to 40 German cities if it is forced to comply with the EU's competition laws. The network is based on very high bit-rate DSL technology, or VDSL.

■ PAUL MELLER, IDG NEWS SERVICE

Deutsche Telekom CEO Resigns After Meeting

BONN, GERMANY

DEUTSCHE TELEKOM last week named a new CEO from within the company after Kai-Uwe Ricke resigned from that job following a meeting with its supervisory board.

The Bonn-based telecommunications company tapped René Obermann to replace Ricke. Obermann joined Deutsche Telekom in 1998 and most recently was head of its mobile phone division.

Ricke had been Deutsche Telekom's CEO since November 2002. He reduced the company's debt from more than €65 billion ($83.2 billion U.S.) to less than €40 billion ($51.2 billion U.S.) as of the end of September.

However, he was unsuccessful in his efforts to stop a decline in revenue in Deutsche Telekom's traditional landline business, where competitors with lower fixed costs have nibbled away at its customer base.

■ JOHN BLAU, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

SAP AG last week named Hans-Peter Klaey president of a new global unit that will target small and midsize companies. Klaey, previously president and CEO of SAP's Asia-Pacific operations, reports to Léo Apotheker, an SAP executive board member and president of customer solutions and operations. SAP said small and midsize businesses account for 65% of its customer base.

■ JOHN BLAU, IDG NEWS SERVICE

Dell Inc. said it has acquired ACS Ltd., a London-based IT services firm, for an undisclosed price. ACS offers IT infrastructure consulting and customized application services to large businesses. It also has offices in Paris; Edinburgh; Glasgow, Scotland; and Pune, India. Dell said it plans to offer the ACS application installation service worldwide for projects such as upgrades to Windows Vista.

■ BEN AMES, IDG NEWS SERVICE

Microsoft last week named former Deutsche Telekom executive Achim Berg to head its German operations. Berg will take over as general manager of Microsoft Deutschland GmbH in Unterschleissheim on Feb. 1, the company said. Microsoft Deutschland has been run by an interim executive since Jürgen Gallmann resigned as head of the German unit in October over differences with Microsoft executives in the U.S.

■ JOHN BLAU, IDG NEWS SERVICE

EBay Inc.'s Chinese subsidiary and Beijing-based search engine developer Baidu Inc. have agreed to broaden their relationship in a bid to stave off growing competition from Alibaba.com Corp. in Hong Kong. Under the agreement, Baidu will promote the use of eBay's PayPal online payment service and become the sole provider of text advertisements on eBay's Web site in China.

■ SUMNER LEMON, IDG NEWS SERVICE

MediaTek Inc. in Hsin-Chu City, Taiwan, has bought an undisclosed stake in Beijing-based Pollex Mobile Software Co. just weeks after buying most of its products and intellectual property. MediaTek paid $1 million (U.S.) for a share of Pollex as part of an effort to expand its business to provide chips for ultra-low-cost handsets. In October, it bought the rights to several dozen Pollex applications for $13 million.

■ DAN NYSTEDT, IDG NEWS SERVICE

Innovations by InterSystems

Java Developers Have Caché

The Object Database With Jalapeño. Give Your POJOs More Mojo.

InterSystems
CACHÉ

The object database that runs SQL faster than relational databases now comes with InterSystems Jalapeño™ technology that eliminates mapping. Download a free, fully functional, non-expiring copy at:
www.InterSystems.com/Jalapeno1A

© 2006 InterSystems Corporation. All rights reserved. InterSystems Caché is a registered trademark of InterSystems Corporation. 11-06 CacheJal1CoMo

DON TENNANT

The Darkening Mine

THE FEEDBACK I received following my editorial last week was nothing if not predictable. I dared to assert that there is a certain inequity inherent in the fact that women in the IT profession on average are paid 12% less than their male counterparts, and I urged the IT sector to address that disparity as a means of stemming the loss of women from the profession.

DON TENNANT is editor in chief of *Computerworld*. Contact him at don_tennant@computerworld.com.

My experience in having written about this issue in the past has made it clear to me that most men just don't want to hear it. So I knew what was coming.

"Why aren't there more women coal miners? Because coal mining is strenuous, dirty and dangerous," one male reader wrote. "And because women collectively have fewer obligations to support others and more options to be supported. This has been true for at least 3 million years, but humans have a spectacular ability to ignore the obvious.

"Returning to the present," he continued, "it should not be a surprise that the proportion of women in IT is falling, as IT is becoming more like coal mining every day, except that coal mining has more job security."

Absent from this reader's response, and from any other response I've received so far, was any expression of concern about the decline in the proportion of women in IT. That's certainly consistent with my own observation that the issue isn't particularly top of mind among IT professionals in general, and that's troubling.

The decline is a precipitous one. The Information Technology Association of America found that the percentage of women in the IT workforce dropped from a high of 41% in 1996 to 32.4% in 2004. According to the National Center for Women and Information Technology, the percentage this year stands at 29%, and it's still falling. Unless something changes, it's clear that the percentage of women in IT will be negligible before most of the current IT workforce retires.

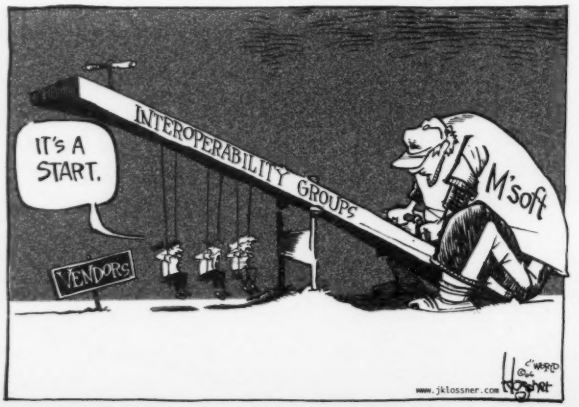
All of this was on my mind last week during a meeting in Toronto of editors from *Computerworld* and our sister publications from around the world, where a panel of four CIOs spoke to us about technology trends, the IT problems they're facing and how we in the media can better meet their information needs. It was a representative group in the sense that one of the four panelists was a woman — Helen Polatajko, senior vice president and CIO at CIBC Mellon Trust in Toronto.

The panel was articulate, knowledgeable and engaging, and I wouldn't argue that it would necessarily have been less so if the CIO of CIBC Mellon happened to be a man. But I would argue that there was an intangible positive dimension to the discussion — a broader and more inclusive perspective — that wouldn't have been there if the panel had been all male.

Nor would I argue that IT professionals and industry observers are ignorant of the unique attributes of the two genders and the vital contributions each makes to the profession. But I would argue that we've made the damaging mistake of taking the value of the differences for granted. Otherwise, we'd be far less inclined to ignore the wage disparity or the fact that the percentage of female graduates in computer science is plummeting.

Contrary to my correspondent's suggestion, IT professionals are not mining coal. They're mining resources — information, ideas and the technology to exchange them — that are core to human interaction and progress. The further we venture into that mine without reversing the gender imbalance, the darker it will assuredly become.

Don Tennant



DAVID MOSCHELLA

Will Economy Leave IT Behind?

IT'S HARD to figure out. On the one hand, the U.S. faces a long list of what seem to be truly scary challenges: an increasingly unpopular and lethal war, the ongoing threat of terrorism, high energy and health care costs, fears of accelerated global warming, menacing new nuclear powers, huge budget and trade deficits, a weak dollar, ongoing corporate-governance scandals, rising global disdain for U.S. corporations such as Wal-Mart and McDonald's, and even damage to the American brand itself.

On the other hand, U.S. business leaders are increasingly bullish. The economy continues to grow; corporate profits are at record levels; the Dow has rushed past the 12,000 mark; and unemployment, interest rates and inflation all remain relatively low. Closer to home, the IT industry has shrugged off its post-bubble hangover and entered a new phase of expansion. The extraordinary rise of Google and the heady valuations of newcomers such as MySpace and YouTube suggest the many great changes and fortunes to come. IT salaries are rising once again, and there is even renewed talk about IT talent shortages.

DAVID MOSCHELLA is global research director at the Leading Edge Forum, a Computer Sciences Corp. company. Contact him at dmoschella@earthlink.net.

While most of the economic debate in the media tends to focus on the macroeconomic risks of huge trade deficits, seemingly artificial exchange rates, ongoing manufacturing job losses and massive intellectual property violations, the reality is that, when it looks at its own interests, big business likes most of what is happening, at least for now. It just doesn't say so very loud or very often.

The simplest way to explain these seemingly irreconcilable crosscurrents is to look at China. For example, for the financial services, entertainment,

pharmaceutical, energy, aerospace, retail or Internet industries, China represents a vast new market opportunity, a lower-cost source of supply or both. It is rarely a near-term competitive threat. Manufacturing companies, of course, face a very different situation and are often rightly worried. Nevertheless, many manufacturers are strongly pro-China as they exploit new market opportunities and take advantage of Chinese manufacturing efficiencies. Even many commodity suppliers are benefiting, as growing Chinese demand puts upward pressure on the prices of things such as steel and oil.

One important byproduct of all this prosperity is that business is awash in cash and vigorously seeking new sources of higher growth and returns. While many IT organizations continue to feel budgetary pressures, squeezing expenses out of IT is now more a matter of corporate choice than necessity. Most companies have more free cash than they know what to do with. If they choose not to invest in IT, that says more about how IT is perceived than it does about the actual economic situation. Happily, we are seeing IT spending loosen up in many organizations, but the mind-set that enterprise IT can always be squeezed just a little bit more still prevails.

In the aftermath of Y2k, the bursting of the Internet bubble, the trauma of 9/11 and the restrictions of Sarbanes-Oxley, IT organizations could legitimately say they were in a period of consolidation and even retrenchment of investments. But that time has passed, and we are now in an environment where business opportunities, ambitions and resources are on the rise. Forward-thinking companies are now placing big bets all around the world. But how many of them are betting on enterprise IT? And if they aren't, why not?

VIRGINIA ROBBINS

When IT Is The Problem

I RECENTLY RECEIVED an e-mail about a column from way back on April 3 ("Making the Best of Bad Situations"). The reader wanted to ask about a bad situation at his wife's workplace, even though her situation was the opposite of what I had described.

In my article, I had talked about an IT department that functioned well but served a dysfunctional company. The reader said his wife's user department desperately wants to do the right things in terms of IT. However, the IT department doesn't allocate enough resources to it. He believed that the IT department was responsible for her department's complete lack of IT knowledge and asked what I could suggest to improve the situation.

VIRGINIA ROBBINS is a former CIO and is now chief operations officer at North Bay Bancorp in Napa, Calif. Contact her at **vrobbins@sbcglobal.net**.

It's a good question. There are IT managers who appear to impede basic IT deployment, like support for Excel. What can you do?

Let's start with understanding how IT managers allocate resources. One factor is that IT never has enough resources to satisfy every request or to complete every project. Another is that most of us act in ways that we believe will be rewarded. Combine them, and you have an IT manager who allocates scarce resources by whatever method generates the greatest rewards. Some managers use methods that are structured and predictable, while others use approaches that are ad hoc or appear totally irrational. But given a stable company culture — great, good or dysfunctional — IT managers will allocate resources in line with that culture or face replacement. So if your IT manager has been around for more than 18 months (the time required to ensure cultural adoption at most firms), he's allocating resources as expected.

To change the resource allocation, either follow your company's rules or, in cases where there appear to be no rules, get help from your executive. I have found that most execs are pleased to sponsor IT work if a department or person is willing to help ensure a smooth implementation. Given that the goal of automation is to increase efficiency, you and your supervisor should prepare a plan that details the efficiency that automation will capture. Will you decrease your expenses or increase your revenue? Spell it out.

As for the other part of the reader's question, IT can't keep a department from learning about IT. The majority of households own PCs, and you can find an *Excel for Dummies* book at any local bookstore. Is IT management saying, "No, you can't read a book or take a class in your spare time?" I doubt it.

But if the IT managers aren't taking a leadership role in training, you have to remember that they are busy doing what the corporation wants them to do. They don't have time for anything else. So you have to step up to the plate. Buy a couple of computer books and set up a competition to see who can read the most and automate some of the department's basic work. You don't need big prizes — a $10 gift card from Starbucks and an award certificate will do. After 30 days, those who have the time and the inclination will start to develop a few interesting spreadsheets. Share these with management, and ask for some more funding for slightly larger prizes. Sooner or later, IT will hear about what's going on and want to be a part of your success.

WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site:
www.computerworld.com/columns

READERS' LETTERS

We're Losing IT Steppingstones

IT'S FINE that we are keeping strategic IT jobs here ["Strategic IT Talent: Offshoring Not the Answer," *Computerworld.com*, Sept. 27], but how do people reach that level if they can't come up through the programming ranks? As we eliminate the path to these strategic IT positions, what incentive do students have to pursue an IT career?

Paul Kirchner
Senior software development architect, Harland Financial Solutions, Cincinnati, p.kirchner@computer.org

A Blue Pill Remedy

THE EASIEST way to defeat the Blue Pill is to have your operating system boot a virtual machine layer as it starts ["Malware Researcher Developing Stronger Blue Pill," *Computerworld.com*, Sept. 21]. The VM layer then would virtualize the machine instructions necessary to boot and run a virtual machine, and hence would detect and, if desired, defeat Blue Pill or any other undesired VM layers attempting to install themselves. In fact, this facet of VM operation can be used by antivirus vendors to analyze and trace exploits based on VM technology. Hence, Blue Pill and its ilk will likely work only on early pre-VM operating systems run on the new hardware. Neither Gates, Jobs nor Torvalds is stupid; their respective operating systems will have a VM layer, even if only for the purpose I've stated above.

Douglas Campbell
Senior software engineer, Northrop Grumman Space and Mission Systems Corp., Culver City, Calif., doug.campbell@craniumpro.com

A Tabulous Feature

I AGREE WITH most of the opinions expressed in "Hands On: A Mac Fan Takes on Vista" [*Computerworld.com*, Sept. 27], but the following claim is just plain wrong: "Now, try opening your list o' links in multiple tabs at one time. Safari and Firefox, for instance, add an 'Open in tabs' command to the bookmark folder menu that opens when you click on a folder of links. IE7 doesn't offer that option – essentially making the use of tabs in Microsoft's latest browser useless to me."

If you create a folder in Favorites and then right-click on the folder, IE presents you with an option to "Open In Tab Group," which functions just like Safari and Firefox.

Mitch Wittneben
Network administrator, Texas A&M University, College Station, Texas

Obeying the PM Commandments

THOUGH THEY are all critical, none of "The Ten Commandments of Project Management" [Management, Oct. 2] is new. In fact, project managers have been advocating these things since at least the early 1990s. The question is why we don't incorporate most of them automatically. These are not trivial concerns. We must be willing to state to management why the absence of one or more of the commandments is a critical issue. We cannot just mumble and say, "Let's get on with it." Not being able to conform consistently to most of the commandments is a significant contributor to poor results for which we take the blame.

Norman H. Carter
President and CEO, Development Systems International, Los Angeles, dsicarte@sbcglobal.net

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

SECURITY MANAGER'S JOURNAL

Can a Manager Be a Techie and Survive?

For C.J. Kelly, being a manager of techies without being a techie at heart herself just doesn't work. **PAGE 28**

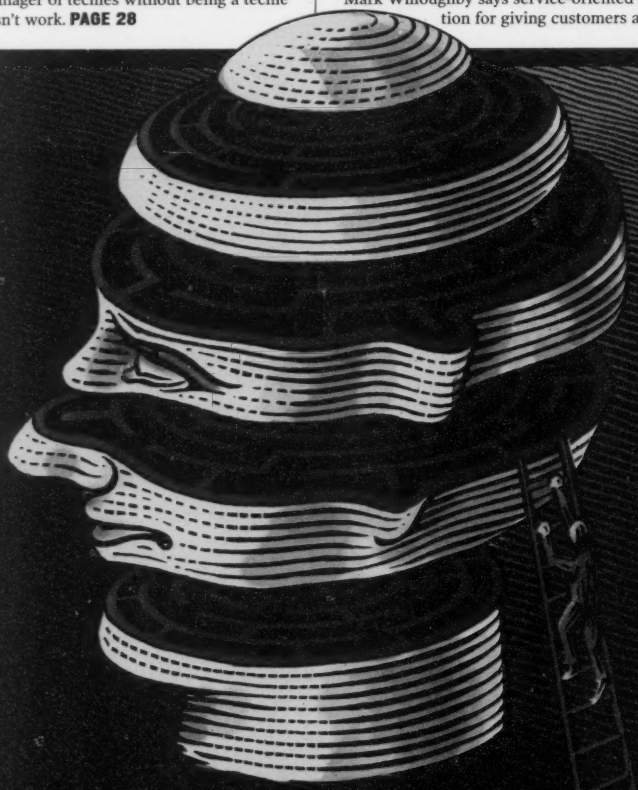
OPINION

SOA: Enabler of Mass Customization

Mark Willoughby says service-oriented architectures provide the technical foundation for giving customers a highly customized experience. **PAGE 30**

Identity management projects are costly and complex. But even small steps forward can yield productivity gains.

By Robert L. Mitchell



ISTVAN ORLOSZ

STEPPING INTO Identity Management

TWO YEARS AGO, Exxon Mobil Corp. had big plans to create a centrally managed identity management infrastructure that would automate the process of issuing new user accounts for access to its many corporate applications. Unfortunately, it had to put those plans on hold last year when the technology couldn't meet the business's needs.

"Our vision includes full life-cycle management of all user identities and access privileges," says Patricia Hewlett, vice president of global IT. The problem was achieving that vision at scale. Exxon needed to manage identities and provision access based on each user's role and the types of system access required to do the job, but that was difficult with 84,000 employees in 200 countries.

"Available products could handle a small number of static roles but were not well suited to managing dynamic, attribute-based roles," Hewlett says.

Many of Exxon's applications also didn't support role-based access. "We had to add those capabilities to each application," Hewlett says. That was too much work, so she has "put the project in the fridge" for now.

The products have improved since Exxon first planned the project, but Hewlett says role-based access is still relatively immature. "We … have not made a decision as to when we'll resume the project," she adds.

Like many other organizations that have traveled the road to centralized identity management, Exxon found the potential benefits — such as automated provisioning of accounts for new users and deactivation of accounts for departing employees — compelling.

Continued on page 24

MARKET SNAPSHOT

IDENTITY & ACCESS MANAGEMENT

A comprehensive infrastructure to identify users in a system (e.g., employees, customers and contractors) and control their access to resources within that system by associating user rights and restrictions.

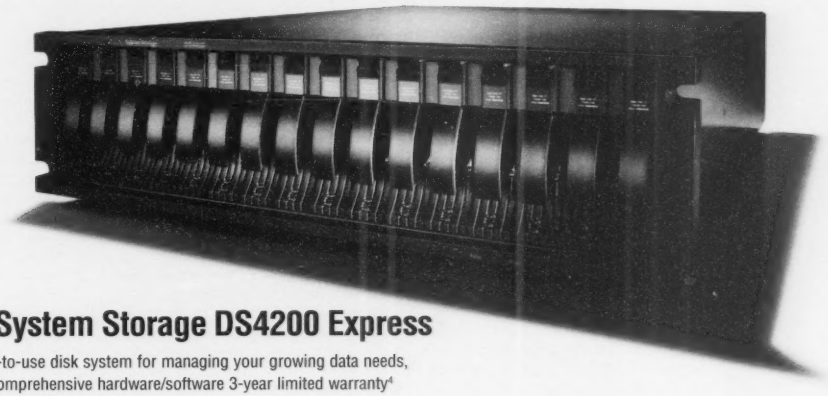
Worldwide pressure to comply with security regulations.

$3 billion in 2005; $3.4 billion in 2006 (estimated)

IBM

If you buy a storage system now, why not choose one that can also address your data needs later? Take the IBM System Storage™ DS4200 Express. It scales from 1TB to 56TB and anywhere in between[1] – more than some of its biggest competitors.[2] It's also more compatible with more operating systems, giving you a simple and cost-effective way to grow.[3] Because with IBM, innovation comes standard.

SCALES FROM GOT-IT-COVERED TODAY TO WE-CAN-HANDLE-IT TOMORROW.



IBM **System Storage DS4200 Express**

An easy-to-use disk system for managing your growing data needs, with a comprehensive hardware/software 3-year limited warranty[4]

- Industry-standard 19" rack
- Scales from 1TB to 56TB, helping to protect your investment as you grow
- Heterogeneous OS support – no other midrange disk storage product is more compatible
- Supports unique 4 Gbps interface;[5] 500GB SATA II hard disk drives[1]
- Fibre Channel Switched (FC-SW) and Fibre Channel Arbitrated Loop (FC-AL) standard
- Complimentary installation and configuration courseware CD

From **$11,474*** or **$297/month**[6]

WHY WAIT?
PAY $0 FOR THE NEXT 3 MONTHS.

Get the DS4200 Express now and defer payment for the next 3 months.

ibm.com/
systems/innovate70

1 866-872-3902
mention 104CE47A

Price does not include hard drives. A minimum of two hard drives is required. All prices are IBM's estimated retail selling prices as of October 4, 2006. Prices may vary according to configuration. Resellers set their own prices, so reseller prices to end users may vary. Products are subject to availability. This document was developed for offerings in the United States. IBM may not offer the products, features or services discussed in this document in other countries. Prices subject to change without notice. Contact your IBM representative or IBM Business Partner for the most current pricing in your geography. 1. Denotes raw storage capacity; usable storage capacity may be less than stated. Capacity stated in uncompressed mode followed by capacity using data compression technology. 2. Compared to EMC CLARiiON CX300 and HP StorageWorks MSA 1000. 3. Compared to HP StorageWorks MSA 1500 and EMC/Dell AX150. 4. IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply. Telephone support may be subject to additional charges. For on-site labor, IBM will attempt to diagnose and resolve the problem remotely before sending a technician. On-site warranty is available only for selected components. 5. As compared to other major storage vendors 6. IBM Global Financing offerings are provided through IBM Credit LLC in the United States and other IBM subsidiaries and divisions worldwide to qualified commercial and government customers. Monthly payments provided are for planning purposes only and may vary based on your credit and other factors. Lease offer provided is based on an FMV lease of 36 monthly payments. Other restrictions may apply. Rates and offerings are subject to change, extension or withdrawal without notice. IBM, the IBM logo and System Storage are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. Other company, product and service names may be trademarks or service marks of others.

© 2006 IBM Corporation. All rights reserved.

NASA REBADGES WITH Identity Management

CASE STUDY

Until recently, NASA used a different badge system in each of its 16 locations. "We didn't have an agency repository of identity information," says Portia Dischinger, data center manager at the Marshall Space Flight Center. It also lacked a consistent badging process or any way to ensure that an employee who was terminated would be locked out of all facilities immediately.

Today, NASA has implemented new, consistent badging systems in most locations and configured each to work through a single identity management entity to provide more tightly controlled, coordinated building access.

NASA started by creating a universal uniform personal identification code (UUPIC) for every user. "We went through each badging system to pull in identities, assign those UUPICs and provide that back to the IT systems and badging systems as an anchor attribute for identity," says Sharon Ing, integrated services environment project manager.

Identities are now created for some 20,000 staffers and 100,000 contractors and affiliates through human resources or through the badging system. Those changes are propagated through Sun Identity Manager, which handles workflows for badge-approval processes, and a back-end SQL Server database, which acts as the identity repository. Identity data also gets pushed to the enterprise directory and asset directory, although the system is currently used only for provisioning and deprovisioning of badges. "We don't have all of our applications integrated into our account management system yet," Dischinger says.

Previously, a user who was terminated in one location might still have access to other facilities. Now, says Ing, "if somebody leaves, our checkout process disables the identity and starts a workflow identifying accounts [to disable]." Once a badge is turned in, that triggers an automated deprovisioning process that affects access in all locations.

The biggest technical hurdle was cleaning up identity data between applications and matching identities with old employee codes, says Dischinger. But implementation was the easy part. The bigger task, she says, is "understanding your current business processes and articulating that well."

– ROBERT L. MITCHELL

Continued from page 22

But getting the full benefit from an identity infrastructure remains challenging.

Identity management tools have made strides in the areas of managing access, creating user accounts, designing workflows and providing an audit trail of who had access to what when. The tools break down the stovepipe identity infrastructures in which each application has its own access controls and administrator — a design that doesn't scale well when businesses have thousands of applications.

As the industry has consolidated, many of the stand-alone identity management tools have been absorbed into suites that integrate user provisioning, Web access management, single sign-on and other functions into one framework. But centralizing the management of identity information is still a complex and costly affair that involves integrating application-specific and directory-based repositories.

"The integration of applications, the role management issues, many organizations find very complex to plan and deploy," says Ray Wagner, an analyst at Gartner Inc. And identifying and managing user roles is still "a very early market," he adds.

Applications that support a common directory system, such as Microsoft Corp.'s Active Directory, make role management easier, but even then there are challenges, says Rafael Rodriguez, associate CIO for infrastructure services at Duke University Health System in Durham, N.C. "Active Directory can keep track of roles, but in each application, you still have to maintain what those roles are allowed to do," he says.

Many identity management deployments also lack granularity, allowing all-or-nothing access to applications. Fine-grained access controls, where users have conditional access based on their roles, have been implemented in very few organizations, Wagner says. That means that in most cases, administrators still must manage fine-grained access within each application.

Cleaning up and mapping data is another challenge. "Customers don't always have their data in a form where you can bring it together into a common repository of identity, or they don't understand the business processes well enough to deploy role-based systems," says Peter Houston, senior director of identity and access product management at Microsoft.

Deployments can also be costly, and complexity increases with the size of the organization. IT executives should expect to pay $20 to $30 per user for the software and two to six times that amount on integration, Wagner says.

Motivating Factors

Nonetheless, businesses are increasingly motivated to move ahead. Identity management systems can improve overall security and privacy while providing an audit trail to meet the requirements of the Health Insurance Portability and Accountability Act or the Sarbanes-Oxley Act. Because of that, compliance issues are driving identity projects that couldn't be justified by return on investment alone. Without an identity management infrastructure, organizations are finding that "it's either very painful to produce compliance reports, or they can't do it at all," Wagner says.

A centralized identity management infrastructure is also foundational for projects that can cut administrative costs and increase productivity. The systems can reduce replication of administrative tasks by allowing identity information to be updated in one repository and propagated out to all others. User provisioning and deprovisioning tasks can be automated or delegated to others. Self-service initiatives, such as automating the password-reset process, can cut down on help desk calls.

> **"We're very good at getting people what they need, but we're very poor at taking it away."**
>
> **DAN TESENAIR,** SENIOR NETWORK ENGINEER, HEALTH FIRST INC.

Compliance was a motivator at Rockledge, Fla.-based Health First Inc., which manages 15,000 user accounts for three hospitals and a health plan. It has several authoritative sources of identity information, including a PeopleSoft application, a physician credentialing system called Midas+ Seeker from Affiliated Computer Services Inc. and a suite of clinical applications.

The problem is that as people change roles, they gain cumulative access to the various systems, says Dan Tesenair, senior network engineer at Health First. "We're very good at getting people what they need, but we're very poor at taking it away," he says.

Health First brought in Novell Inc.'s Identity Manager and has been using the product's metadirectory features to manage identity information among 20 applications. Like most vendors, Novell offers connectors for commonly used directories such as LDAP, popular applications such as PeopleSoft, and databases such as SQL Server and Oracle, which some applications use as back-end repositories for identity information.

For other applications, Health First needed to write new connectors. But customization wasn't what slowed the project, Tesenair says. "On average, we spend two or three months dealing with the business processes and two to three weeks writing the connector for any given application," he says.

But the connectors issue derailed Nancy Birschbach's plans to deploy CA Inc.'s eTrust Admin for user provisioning. Two years ago, Birschbach, information security officer at health care

Continued on page 26

ROLE REVERSAL

THE CREATION and modeling of roles is typically a time-consuming process that involves meeting with departments to hammer out role definitions and the access rights that should accrue to each. Fortunately, there are tools available that can help to automate the process. In contrast to this top-down approach, products from vendors such as Courion Corp., Bridgestream Inc. and Eurekify Ltd. take a bottom-up approach, inferring what your role infrastructure should be based on an assessment of what's already in place.

Organizations still need top-down modeling to create the organizational hierarchy into which roles must fit. But, says John Grimm, product manager at Courion, "organizations can gain tremendous leverage by collecting and correlating operational user access data." Such tools can also manage roles, establish policies and flag violations to ensure that users with more than one role don't violate policy, for example.

Jim Shattuck is considering using modeling tools to help with role definitions at Children's Hospital Boston. "We don't intend to develop enterprise roles in the next 18 months because of the significant time and effort required to distill nonhierarchical health care application-authorization levels into a practical set of roles," he says.

But when Shattuck moves forward, he plans to examine role-automation software. "There's a lot of room out there [to automate] roles and role definition," he says.

– ROBERT L. MITCHELL

Cingular's New 3G LaptopConnect Card

now is global. broadband. secure.

Business is not bound by geography. Wireless shouldn't be either. With Cingular's LaptopConnect card, you can work at broadband speeds here and abroad. Do better business with now.

- Cingular is the only U.S. wireless provider to offer a 3G global solution from a single laptop card.
- No one has a faster wireless broadband network than Cingular.
- Largest national high-speed wireless data network with mobile broadband speeds in over 130 major U.S. markets and growing.
- More secure than Wi-Fi and with a wider coverage area – no hotspots required.

Get Cingular's Global 3G LaptopConnect card for only

$49.99

after $100 mail-in rebate debit card with 2-year service agreement on Unlimited Data Connect plan.

Call 1-866-4CWS-B2B Click www.cingular.com/broadbandconnect Visit your nearest Cingular store

cingular
raising the bar

Limited-time offer. Other conditions and restrictions apply. See contract and rate plan brochure for details. Subscriber must live and have a mailing address within Cingular's owned network coverage area. Up to $36 activation fee applies. Equipment price and availability may vary by market and may not be available from independent retailers. **Early Termination Fee:** None if cancelled in the first 30 days; thereafter $175. Some agents impose additional fees. **Rebate Debit Card:** LaptopConnect card price before mail-in rebate debit card with Unlimited Data Connect plan purchase is $149.99. Allow 10–12 weeks for rebate debit card. Rebate debit card not available at all locations. Must be customer for 30 consecutive days. Must be postmarked by 12/30/06. **Sales tax** calculated based on price of unactivated equipment. ©2006 Cingular Wireless. All rights reserved.

PHASING IN

Identity Infrastructure

CASE STUDY

Duke University Health System has been gradually building up its identity management infrastructure. The organization, which supports more than 20,000 people in three hospitals and over 100 clinics, has already deployed single sign-on access to a suite of clinical applications.

Having completed its single sign-on project for a core set of applications, Duke is now working on deploying password synchronization among those applications as well as its e-mail and hospital information system applications. It's also moving forward with self-service password reset and automated provisioning and deprovisioning projects for e-mail and clinical applications.

Rafael Rodriguez

Provisioning is a big problem in teaching hospitals, says Rafael Rodriguez, associate CIO. "We have new users coming, new medical staff and every year a whole new class of residents. Getting all of those accounts set up and decommissioned takes a lot of time," he says.

While users may log into 20 or more different applications, Rodriguez initially focused on eight of the most broadly deployed applications in the organization. Duke has deployed IBM's Tivoli Identity Manager as part of the effort and is in the process of moving these services into production this month. In a second phase, Duke will enable provisioning for those same applications and will add a clinical notes application as a managed system.

Ironically, the most complicated product to integrate has been another IBM program: Lotus Notes. "Notes allows people to be logged in locally or on the server. The [Notes ID files] can be kept on the client. Synchronizing all of those Notes IDs is one of the bigger challenges," Rodriguez says.

Adding to the complexity is the migration of Duke's clinical workstations to Microsoft's Active Directory. But if all goes according to plan, new clinicians will automatically gain access to the full suite of applications they need to do their jobs. Rodriguez says the key is to move carefully, communicate with all users, and focus on the process as much as on technology. "You're affecting the way people work," he explains, "and you need to understand that."

– ROBERT L. MITCHELL

Continued from page 24

provider Agnesian HealthCare in Fond du Lac, Wis., hired a consultant to plan the transition. Her staff spent more than a year mapping data between repositories and changing all user IDs to a common naming convention.

But then they found that the versions of the Lawson CRM and Cerner Millennium clinical software she had deployed — both key repositories of user identity data — wouldn't connect with eTrust Admin without substantial integration work. Newer versions of both products will work with eTrust Admin, but upgrading will have to wait.

Agnesian had recently deployed both applications, and upgrading again would have required changing out both hardware and software. "Those applications are our bread and butter, and we're not going to ditch that and put in something new," Birschbach says. Another alternative was to write a custom interface, she says, but "it wasn't worth our while to do custom programming." So she abandoned the project. "I had to back out all of the policies and procedures and write new ones for manual provisioning," Birschbach says.

Still, the organization is benefiting from the work done so far. All of the data repositories have been cleaned, and Agnesian created roles and mapped each to the appropriate applications so administrators could provision at a group level. "I met with every director and department leader to define a role for every job code," says Birschbach, who found that her version of Lawson software doesn't support group-based provisioning. "We're using that information. It's just, unfortunately, not in an automated process," she says.

Tesenair says such problems shouldn't be a showstopper. "I don't see technology being a barrier. If you need data, you can get it in some way or another," he says. But although Health First has built connectors for its identity repository, it has yet to take full advantage of that for user provisioning. Applications that work with a directory service are supported, he says, "but if it has its own repository, it's manual."

Tesenair has created workflows that automatically notify administrators when a user is terminated or his credentials change, but the actual provisioning is manual. "We've held off until we get a better handle on our roles first," he says.

Defining those roles has been a challenge. "We don't have this figured out from a business process perspective," Tesenair says. For example, it's unclear whether a nurse manager should get access to medical records or if only nurses should have that access. "I don't find technology to be as much of a barrier as the business processes are," he says.

While role modeling is a challenge, it hasn't stopped Health First from leveraging its identity infrastructure. Tesenair rolled out a password self-service application that cut help desk calls from more than 6,683 to 534 a year. The organization is also piloting a mobile clinical workstation, deployed on a Tablet PC, that supports single sign-on to a suite of clinical applications and e-mail. The identity management system synchronizes username and password data among the applications, a biometric authentication system and Novell's eDirectory service.

Role definition also can be tricky when several business units are involved. Montvale, N.J.-based Ingersoll Rand Co. supports different Web portals for dealers of each of the company's three construction equipment lines: Bobcat, Club Car and Ingersoll Rand. A dealer that carries all three brands had seven different log-ins to access all required applications. Jim McDonald, manager of IT, says he used Oracle Corp.'s Identity Manager and other Oracle tools to create a single identity and single sign-on for each user. Now he's working on assigning users roles so each user inherits role-based rights and attributes automatically.

The problem is that different groups define the same role names differently. For example, a parts manager at one dealership may be able to see prices and costs, while at another, management may not want the parts manager to see what the company pays for a part. Different constituencies will never agree on a single set of role definitions, says McDonald, and you have to work around that. "We let each brand define their own roles. We're not trying to dictate the business requirements," he says.

"After mapping all of your accounts, the second most challenging task is defining roles," says Jim Shattuck, lead systems analyst at Children's Hospital Boston. The teaching hospital has been consolidating identity repositories and uses Microsoft Identity Information Server to link 14 applications to perform automated user provisioning. As part of that effort, the hospital defined about 90 minor roles.

"The roles help us provision about 80% of the users, but there are 20% that are too disparate," Shattuck says. Those "do not justify the effort involved in defining and maintaining them," he says, so they are handled as one-off requests.

The number of applications included in the project is also limited. "For the most part, the roles affect applications and permissions that are integrated tightly with Active Directory and not beyond," Shattuck says. The rest of the more than 100 applications, including the hospital's primary clinical application, aren't yet integrated. "As far as roles go, we're maybe 20% of the way there," he says.

Shattuck cites both technical and management challenges. For example, to provision the clinical application, the hospital needed to define key roles and add new "departmental" and "manager" fields in PeopleSoft, the authoritative repository of identity data for provisioning users in the clinical application.

While identity projects may be complicated and costly, organizations can be successful by taking small steps and limiting the scope to key applications — at least initially. "We don't believe that all of those legacy applications will ever be fully integrated," Wagner says. Despite the challenges and limitations, he sees clear benefits to moving ahead: "You can, through the application of some of these tools, make your business run more efficiently."

IDENTITY INFRASTRUCTURE

KEY TO PANDEMIC PLANNING

HERE'S ANOTHER REASON to start thinking about identity management infrastructure: One key to responding to a global influenza pandemic will be cross-training people who hold less mission-critical positions to take over key positions at the height of an outbreak, when up to 50% of employees may be unavailable.

For example, application development won't be mission-critical when a company is in survival mode, so programmers could be cross-trained to perform data center administration tasks. That means quickly provisioning access to new sets of applications, rescinding old ones and redefining access levels.

"In order to provision them for the tools they need, you'd better have a very good identity management system," says Stephan Ross, national leader of the business continuity management practice at Deloitte & Touche LLP. In the event of a pandemic, "the whole issue of access profiles is going to be a major issue," he predicts.

– ROBERT L. MITCHELL

Kyocera. Redefining color for business.

There's color. And then there's Kyocera Business Color. Business Color brings ideas *powerfully* to life and *persuasively* to customers. With Kyocera printers and MFPs, you can keep your color needs in-house and within budget. Versatile print, copy, scan, and optional fax capabilities combine with advanced finishing options to deliver compelling business communications. Plus, Kyocera software solutions help maximize your hardware investment. So don't settle for plain old 'Blue' when you can 'Blue Chip' color from Kyocera.

That's the power of People Friendly. Learn more: www.kyoceramita.com.

People Friendly.

THE NEW VALUE FRONTIER

KYOCERA

KYOCERA MITA CORPORATION. KYOCERA MITA AMERICA, INC. ©2006 Kyocera Mita Corporation. "People Friendly," "The New Value Frontier," the Kyocera "smile" and the Kyocera logo are trademarks of Kyocera.

Can a Manager Be a Techie and Survive?

It's the only way our security manager wants to work, and her experience tells her it's the best way to go. By C.J. Kelly

SECURITY MANAGER'S JOURNAL

I'VE WRITTEN before about balancing technical and managerial skills, and it's a question I've thought a lot about over my entire career. Back when I was young, inexperienced and terrible at supervising, with very little in the way of technical skills, my primary goal was to "get technical." I was often told in my personnel evaluations that I had some work to do to earn the respect of the technical people I managed. I took that advice to heart.

Years later, I am still managing people, projects and processes, but I am the senior technical person in the group. That doesn't mean that I know everything. No one can. But in the security arena, I know my stuff, down to every bit, byte and command line. Apparently, some people think that's a bad thing. I've heard some people say that good managers should not be technical at all.

I don't agree. My career experiences have led me to believe that those who manage techies must have a blend of managerial skills, business smarts, top-notch technical skills and integrity in order to be effective. I have admired the managers I have had. They were all very good business people who had sharp technical skills. If I was stumped on something, whether it was a technical or managerial matter, I could ask them for help.

Through their examples, I have learned to be a manager of both people and projects while keeping my hands on the technology. Today, in the state agency where I work, I still take charge of some technical projects alongside my management responsibilities.

Can't be done, you think? It can, though it takes practice.

For example, this year I hired a few people and prepared several management reports, including an information security plan, a disaster recovery plan and an information security self-assessment. I prepared the budget forecast, managed 25 projects and a team of IT and security people, and designed and deployed an intrusion-detection system agencywide. Right now, I'm working on the firewall design, including a VPN strategy. And I'm configuring the devices and installing them. I'm not blowing my own horn. I'm just saying that it's possible to both manage and participate in technical projects. Those two things aren't mutually exclusive.

Switching Gears

The key is learning to "time-slice," which allows me to smoothly switch gears and focus. Admittedly, there are some days when it can be difficult to do. But a colleague once said to me, "I can't believe the speed at which you can mentally connect and disconnect." That might have been her way of saying that I needed to slow down and pay attention to what she was saying, but to me it meant that I had almost mastered the ability to switch gears.

> Because I'm technically informed, no one can blow smoke up my skirt.

The downside of being both a manager and a techie is that you have to balance priorities constantly. I recently was burdened with what I considered excessive management chores when all I wanted to do was technical work. I had to delay some projects and focus solely on the management side of things, which was irritating. I had to work more hours to keep projects on schedule. Some deadlines slipped slightly. But, thanks to my time-slicing skills, I was able to quickly recover. The management issues were resolved in the best possible way, and the projects were completed successfully.

The downside is more than offset by the positives.

For example, the ability to understand and be involved in the technical side helps me do root-cause analysis. And how many grand-scale IT or security implementations have failed because the manager didn't understand some basic thing that was as clear as day to the techies?

What's more, being informed about technical matters helps you avoid other problems. I've noticed that IT and security folks will sometimes tell you what you want to hear, not what you need to know. If you don't know the difference between fiction and reality, you've got a problem. By being technically informed while managing people and projects, no one can blow smoke up my skirt. I can tell the difference between a lame excuse for a delay and a legitimate reason why something can't be done. That ability is priceless.

Happy Medium

We need to pull the business and technical sides of organizations closer together. It's certainly true that geeks need to be able to talk business. Technical people need to be able to produce reports, think about the big picture as it relates to technical work and advise business people on how to solve a business problem with a technical solution. But it's a two-way street; business people need to be able to talk geek, too.

I teach business students about technology at the local university. The university's goal is to educate these MBA hopefuls about information systems, technology and e-business. In today's global economy, a company's success or failure may hinge on the ability to implement technology to remain competitive. The business managers of tomorrow must be able to see the big picture while also understanding the nuts and bolts that keep everything running. The type of thinking that was once left to technologists is now essential for business managers.

I wouldn't be happy if I couldn't do all the things I'm doing. I enjoy managing. I enjoy technical work. I enjoy the challenge of helping people work together. I enjoy configuring a security device and watching it spin up exactly as planned. I get bored when I don't have something challenging to work on. I like to do all these things, all at once, and I think that ability is what makes me good at my job.

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "C.J. Kelly," whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com, or join the discussions in our security blogs: **computerworld.com/blogs/security**.

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**.

SECURITY LOG

Former Employee Faces Hack Charge

The former IT director at Fort Lauderdale, Fla.-based Muvico Theaters has been indicted in federal court on a felony charge of breaking into the company's computer systems. The intrusion caused disruptions that prevented the sale of online tickets and the processing of credit card transactions at six theater locations. Joseph Harlen Shook, who was released on $100,000 bail, faces a maximum of 10 years in prison and a $250,000 fine.

Millions Breached

Based on a poll it conducted in October, Harris Interactive Inc. estimates that in the past three years, 49 million Americans have received notices that their personal data was compromised. Forty-eight percent of the notifications came from government agencies.

Hertz Addressing Potential Breach

A computer holding the names and Social Security numbers of most Hertz employees in the U.S. was found at a former employee's home. Hertz Global Holdings Inc. said all those affected by the data security breach will be notified, according to a Bloomberg News Service report. The former employee had access to the information as part of his job. Hertz had 22,800 workers in the U.S. as of June 2006.

Los Alamos Workers' Information at Risk

A disk containing personally identifiable information on about 1,000 Los Alamos National Laboratory contract workers is missing. The disk belongs to KSL Services and doesn't hold lab information.

Get the latest security tools, updates, and guidance delivered direct from microsoft.com/security/IT

Malware is taking on new and more challenging forms. Get the latest countermeasures, including links to security expert podcasts and training, with Microsoft Security Newsletters delivered to your inbox monthly. And get up-to-the-minute Microsoft Security Notifications via RSS feeds or right to your IM or mobile device at **microsoft.com/security/IT**

Microsoft

© 2006 Microsoft Corporation. All rights reserved. Microsoft is a registered trademark of Microsoft Corporation in the United States and/or other countries.

BRIEFS

Lenovo Releases ThinkPad Tablet

Lenovo Group Ltd. last week announced the ThinkPad X60 Tablet, a convertible laptop PC with a 12-in. multiview, antiglare display. It also includes Lenovo's Active Rotate function, which makes the screen orient itself to the user, no matter which direction the unit is turned. It's priced at $1,799 and will be generally available early next month.

Aris BPM Software Supports SOAs

IDS Scheer AG announced this month that it added new features to its flagship Aris business process management suite. Aris 7.02 includes support for service-oriented architectures and business rules management, as well as integration with SAP AG's business intelligence software. A new feature called SOA Designer provides easy identification of services needed to automate operational processes, the vendor said. Also, in conjunction with Corticon Technologies Inc., IDS Scheer has rolled out the Aris Business Rules Designer, which is based on Corticon's business rules management system. This integration will allow companies to model, measure and manage the rules-based decisions embedded in their business processes, IDS Scheer said.

Entry-Level RAID Controllers Debut

Storage infrastructure vendor Adaptec Inc. is shipping its new line of entry-level HostRAID controllers for desktops, workstations and servers, featuring support for Intel Corp.'s latest PCI Express interconnect. The Serial ATA 1220SA model is aimed at protecting business-critical data being stored on desktops, while the Serial ATA 1430SA model is designed for companies that want to use RAID capabilities such as data striping across multiple drives to increase performance. The 1220SA lists for $75, and the 1430SA lists for $125.

MARK WILLOUGHBY

SOA: Enabler of Mass Customization

SOFTWARE started out following the same game plan that Henry Ford used to revolutionize transportation, which was selling the same basic Model T at an unheard-of low price and in any color as long as it was black. Now all that mass-production sameness is being redefined by service-oriented architectures, which offer the benefits of mass customization. The right combination of reusable software components in an SOA can provide each individual with a customized software experience.

MARK WILLOUGHBY, CISSP, is a 20-year IT industry veteran and journalist. Contact him at willoughby@earthlink.net.

Mass customization was unheard of early in the 20th century when Ford's numbing uniformity was eclipsed by William Durant and General Motors, which offered consumers more choice and sizzle. Then, late in the last century, business thinkers such as Stan Davis and B. Joseph Pine II began writing about mass customization and the economic benefits of enhancing the consumer's experience.

Mass customization is defined as the personalization of products and services at a mass-production scale and price. Mass customization is impossible without streamlined management processes and information systems. IT — aligned with business strategy and integrated into the production process — was the critical enabler for the early build-to-order mass-customization prototypes, going back to the 1990s.

The process starts with the customer making a product decision. Then IT must orchestrate the global supply chain for the multitude of parts needed to produce and track the order through a complex manufacturing process. Mass customization for IT ends by adjusting inventory, producing a correct bill and updating a marketing database.

Those that succeeded in mastering mass-customization concepts early, such as Dell, Boeing and UPS, prospered with complex but efficient information systems. They built new business models and created a strategic advantage from their intricate and effective operations.

Now mass customization has come to software. SOAs introduce a recursive loop of highly customized information services that combine to create unique functionality.

Think of the times you've returned to a favorite online travel site or bookstore and it pulled details from your profile to deliver a tailored user experience. Software tools automate the design and implementation of those tightly focused, highly customized applications, which are composed of thousands of reusable components.

SOAs are technical enablers for what Pine and James H. Gilmore have defined as "the experience economy" (also the title of their 1999 book), which is the next step beyond mass customization. The experience economy replaces the service economy with personalized services delivered for approximately the same price as garden-variety, mass-market services.

The experience economy means anticipating individual choices. Consumers develop increased expectations regarding the goods and services they purchase. Only the real-time extensibility, scalability and flexibility of SOAs can satisfy these heightened expectations. The experience starts by constructing millions of individual profiles from past user choices, which are mapped to an expansive menu of goods and services.

We're just scratching the surface of the experience economy, but experience-savvy companies have emerged, including AOL, Disney, Google and Amazon.com. These companies use layers of personalized information in innovative ways to give customers goods and services tailored to fulfill their expectations.

SOAs are the experience economy's technical underpinnings for customer profiles that are used to manage infinite permutations of personal choice. SOAs even mimic customer profiles with SOA service profiles of software components, or artifacts. Just as a customer profile contains choices and preferences, a software profile provides details on the functionality in the artifact's methods. The SOA profile also has the history of how the artifact has been combined with other components in providing services.

Other information constructs, in addition to artifact profiles, help SOAs to create the dynamic applications for the experience economy. A registration service posts the profiles that identify available artifacts. A location service finds the SOA artifact with the desirable profile, and a binding service puts the artifacts in a usable form.

All this SOA complexity and automated information sharing creates a problem for IT governance: how to make sure that SOAs do only what they're supposed to.

As processors of sensitive personal or corporate data, SOAs can be abused. Personal information could be leaked, or unauthorized code could be inserted to perpetuate fraud in corporate finances.

Maintaining the delicate balance between SOAs and Big Brother is increasingly important in properly managing automated software systems. Fortunately, a marketplace already has formed for SOA governance that's aiming to do just that.

WANT OUR OPINION?

For more columns and links to our archives go to: **www.computerworld.com/columns**

Got Questions About Wireless Security?

Computerworld's IT Executive Summit Has the Answers

The growth of wireless networks within the last few years has been explosive, and as a result, IT departments must keep up with the potential abuses of wireless technologies. There are few control mechanisms available to mitigate risk, and users continue to discover ways around available controls for wireless networks. IT departments must face unique challenges to protect the integrity, confidentiality and availability of critical business information on wireless systems.

This IT Executive Summit will explore how companies have effectively dealt with these challenges and how they've found solutions. And it will outline the questions IT needs to ask and answer to provide secure wireless networks to their enterprise infrastructure.

Apply to attend Computerworld's complimentary* half-day IT Executive Summit: Securing the Enterprise Infrastructure from Wireless Threats.

* Complimentary registration is restricted to qualified IT directors, vice prseidents and C-level executives only.

December 7, 2006 • San Francisco, California

JW Marriott Hotel (formerly the Pan Pacific Hotel)

7:45am to Noon

Securing the Enterprise Infrastructure from Wireless Threats

7:45am to 8:15am	**Registration and Networking Breakfast**
8:15am to 8:30am	**Introduction and Overview** Ron Milton, Executive Vice President, Computerworld
8:30am to 9:15am	**Market Overview and Trends** Ken Davis, CISO & Partner, The Barnier Group LLC
9:15am to 9:45am	**End-User Case Study: The Weather Channel** John Penrod, Chief Information Security Officer, The Weather Channel
9:45am to 10:15am	**Refreshment and Networking Break**
10:15am to 10:45am	**Industry Visionary Presentation** David J. Thomason, Director, Security Engineering, Sourcefire
10:45am to 11:15am	**End-User Case Study**
11:15am to Noon	**Discussion Panel** Moderator: Ron Milton, Executive Vice President, Computerworld Panelists: John Penrod, Chief Information Security Officer, The Weather Channel; David J. Thomason, Director, Security Engineering, Sourcefire

Apply for registration today

Contact Ryan Galvin at 888-299-0155

or visit: www.itexecutivesummit.com

COMPUTERWORLD
IT EXECUTIVE SUMMIT
WIRELESS SECURITY

Sponsored by

NOKIA
Connecting People

©2006 Polycom, Inc. All rights reserved. Polycom, the Polycom logo and SoundStation are registered trademarks of Polycom, Inc. in the U.S. and various countries.

Voice conferencing transformed. Again.

1992: The Polycom SoundStation® redefines voice conferencing with crystal clear audio. Today: The world leader in conference phones does it again – delivering an all new range of innovative solutions with Bluetooth® wireless and Polycom's revolutionary HD Voice technology. Now, remote groups can engage with unprecedented clarity and convenience customized to how you do business.

Isn't it time you improved the productivity of your meetings? Come hear what you have been missing and learn how to upgrade your systems today at www.polycom.com.

Bluetooth®

Wireless/Portable

HDvoice

POLYCOM®

VIDEO VOICE DATA WEB

TOGETHER, GREAT THINGS HAPPEN.™

MANAGEMENT

Q&A

Managing Multicultural Teams

Subtle obstacles to teamwork caused by cultural or linguistic disconnects can do damage before an IT manager realizes what's happening, says Jeanne Brett of Northwestern University's Kellogg School of Management. **PAGE 36**

Q&A

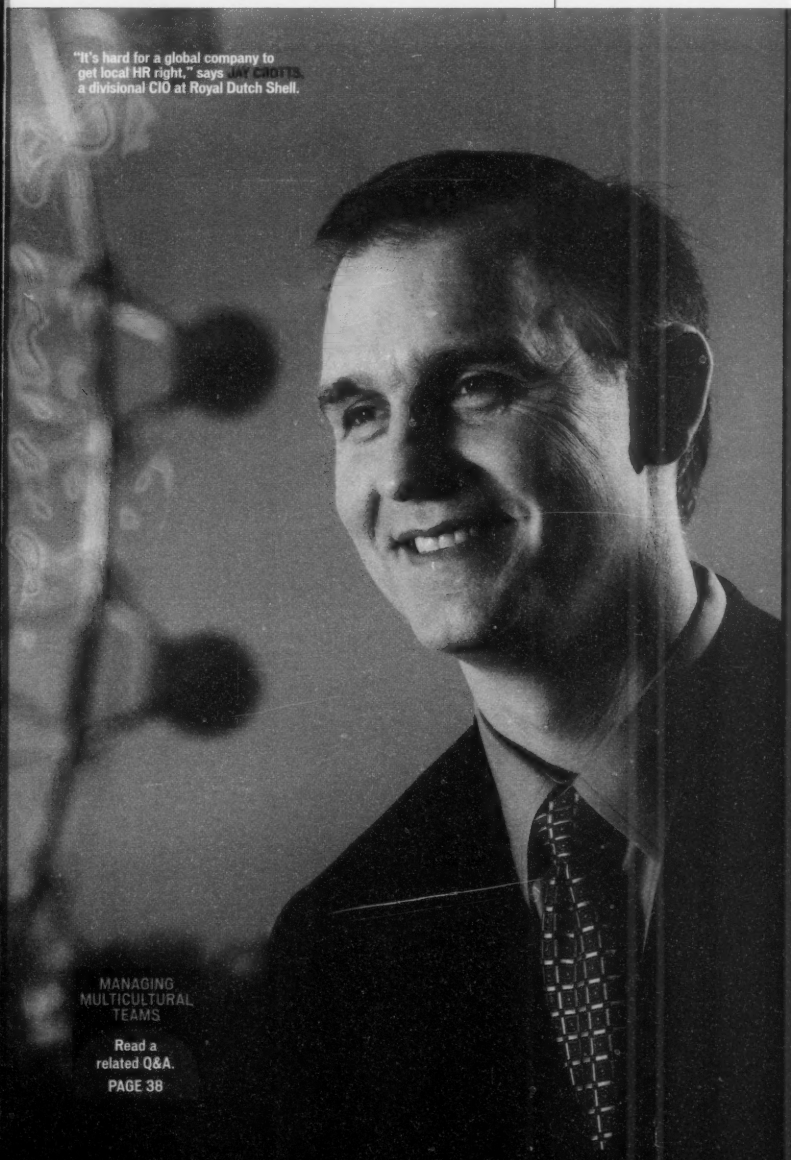
Required Reading

Bob Rouse, program director for SIM's Regional Leadership Forum, talks about selecting the 30 books that attendees read as part of the intensive nine-month program. **PAGE 38**

OPINION

Managing IT as a Professional Services Firm

Smart IT organizations are finding that adopting management concepts from legal, consulting and accounting firms increases their effectiveness. Bart Perkins offers some examples. **PAGE 39**



"It's hard for a global company to get local HR right," says JAY CROTTS, a divisional CIO at Royal Dutch Shell.

MANAGING MULTICULTURAL TEAMS

Read a related Q&A. PAGE 38

FISHING IN THE GLOBAL TALENT POOL

The world may be flat, but there's a learning curve to global IT hiring. By Mary Brandel

AS A CIO AT ROYAL DUTCH SHELL PLC, JAY CROTTS knows something about recruiting IT talent on a global scale. The $26.3 billion company employs 8,000 IT professionals in 145 countries, including remote areas such as Iceland, Togo and Mauritius, a small country off the East African coast.

Shell's goal is to hire the best IT person for every role, no matter where in the world that person resides, according to Crotts. And he's a good example: Almost two years ago, he moved with his family from Texas to Shell's London offices when he accepted the job of CIO of the global business-to-

CHARLES BARTH

business and lubricants segments.

A growing number of U.S. companies — whether they're global or domestic, small or large — are mimicking Shell's approach. They may have job openings or skill needs in a particular country, but they don't limit their IT talent searches to that location. And that makes sense.

Think about it: Some areas of the world are experiencing technology talent shortages — especially in key skill areas. Meanwhile, technology talent pools are cropping up worldwide, particularly in developing economies. No wonder many IT executives are casting wider hiring nets that reach into foreign waters.

New Rules

Hiring foreign labor is no longer just about H-1B visas and offshoring. Thanks to employee referrals, in-country recruiting firms, global job boards such as Monster.com and Jobster, sophisticated corporate Web recruiting sites and online programmer "marketplaces" like RentACoder.com or oDesk, there are more ways than ever before to communicate and collaborate with skilled individuals who happen to live overseas.

Some companies are directly contracting or hiring IT professionals with the understanding that they will continue living in their home countries.

"It doesn't matter whether you're in Singapore, China, the U.S., India or Australia — it's increasingly a global labor market," says Kevin Wheeler, president of Global Learning Resources Inc., a Fremont, Calif.-based recruiting consulting firm. "If I can bring the labor to me, that's good; if I have to take the work to you, that's OK, too."

Wheeler sees all sorts of hybrid hiring models cropping up and notes a general move away from blanket hiring of full-time employees.

"Smart companies are really looking at a whole mix of options — contractors, consultants, part-time workers, offshoring — and it's being driven partly by strategy, partly by the ability to find talent and generally to keep costs lower," he says.

A common setup might include a U.S.-based management and research-and-development staff working with a few programmers in Ireland, a couple more in China and maybe a dozen in India, he says. (See "Outsourcing in China," Nov. 6.)

And while cost is still the No. 1 driver of global hiring efforts, "the search for talent will surpass low cost in the next few years," says Allan Schweyer, president and executive director of The Human Capital Institute, a talent management organization in Washington.

As that happens, Schweyer says, companies will less often ask employees to move and instead use globally dispersed, remote workforces led by a U.S. project manager.

But for companies just getting started on their global talent fishing expeditions, Crotts has some tempering advice: Referring to Thomas Friedman's oft-cited book *The World is Flat* (Farrar, Straus and Giroux, 2005), he says, "The world is flat, but terms and conditions are not."

For instance, compensation packages, the number of hours that employees expect to work, even the length of the hiring process all differ widely throughout the world.

Consider that new Shell employees in the Netherlands start with five weeks of vacation, whereas U.S. staffers might get less time off but command higher pay.

And although prospective employees in the U.S. might not find it the least bit strange to be hired on the spot following a single interview, that would be jarring to someone in Latin America, where the normal hiring process can take three months.

"It's hard for a global company to get local HR right," Crotts says.

Reflecting Cultural Nuances

That's why Deloitte Touche Tohmatsu, with two-thirds of its workforce seated outside the U.S., has overhauled its approach to global recruitment. Led by Kent Kirch, global director of recruiting at Deloitte, the company has created a global selection methodology, a global talent management system, an international internship program and worldwide agreements with several providers of recruitment-related services.

Kirch also has revamped the recruiting section of Deloitte's Web site to emphasize the company's consistent global hiring practices while reflecting cultural nuances and the country-specific job opportunities, benefits and special programs available to employees of its local offices.

The company used to have more than 35 employment sites — one for each country — and no central job listing. Now it has one global site for job candidates throughout the world,

ELEMENTS OF A GLOBAL STYLE

When a company expands its IT recruiting efforts globally, it also has to revamp the recruiting or careers section on its Web site. A basic element to include on the home page, for instance, is a clear and easy way for visitors to access information that pertains to the country they reside in, including job opportunities, benefits and background information about the company's presence in that region of the world.

According to Kevin Wheeler, president of Global Learning Resources Inc., good global recruiting Web sites also do the following:

- Provide information in the local language or dialect.
- Have a look and feel that reflects the country's culture and people.
- Contain specific information on job openings in that country as well as opportunities for working remotely.
- Spell out the employment benefits that pertain to that country.
- Provide a consistent brand and image across countries, including information reflective of the company's general practices, values, mission and corporate culture, with additional localized information for each country and office.

Boring? Never!

According to Wheeler, the best global sites are interactive, to forge a closer bond between job candidates and employers. For instance, they might include screening tests and open-ended questionnaires to learn more about candidates, as well as videos or podcasts featuring employees' descriptions of what it's like to work for the company or in a particular job. Enterprise Rent-A-Car Co. even includes an online game for candidates to engage in.

"Usually, recruiting Web sites are the most boring things on the face of the earth, but the better ones are more marketing-oriented and include a variety of media experiences that you can listen to and watch or read," says Wheeler.

To see how these various global elements and attributes work in the real world, check out the corporate Web sites of the following companies:

Google Inc.
Royal Dutch Shell PLC
Novartis AG
Deloitte Touche Tohmatsu
Enterprise Rent-A-Car Co.
The Boston Consulting Group Inc.

– MARY BRANDEL

If You Recruit Them, Will They Come?

Attracting foreign talent also means paying attention to the attractiveness of your company brand. In the highly competitive Indian job market, for instance, many programmers might prefer working at Wipro Ltd., Infosys Technologies Ltd. or Tata Consultancy Services Ltd. rather than a U.S. or international brand, simply because the chairmen of those firms are regarded as national heroes, says Jay Crotts, a divisional CIO at Royal Dutch Shell.

"In some places, I can put out the Shell brand and everyone wants to work there, but in others, it's a liability," he says. In China and India, for example, Shell is a new presence and the brand needs more buffing. "They've heard of us, but we're new versus other oil companies that have been there for decades," Crotts says.

Little-known brands will have even more trouble attracting talent, says Allan Schweyer, president of The Human Capital Institute. "In countries like India, it's much more important than in the U.S. to work at a recognized company that brings you prestige," he explains.

– MARY BRANDEL

It's very difficult to recruit cross-border if you don't have the right approach and awareness.

Jay Crotts, CIO of the global business-to-business and lubricants operations, Royal Dutch Shell PLC

Everyone in the Pool

Electronic tools have opened the door for even the smallest of companies to fish in the global IT talent pool. For instance, Matt Troyer, president of SmartMicro.com, a Web-based business that remarkets returned computer-related merchandise, recently contracted with a programmer in Russia named Alex to build the company's Web site. He found Alex through oDesk Corp., which helps companies hire, manage and pay technology service providers from 40 countries.

oDesk operates an online marketplace where employers – or "buyers" – can post descriptions of work they need done. Programmers – or "providers" – can apply for the work. Buyers can also search for providers themselves, based on their own specifications. All providers are prescreened, and employers can view their work histories, feedback ratings and test scores.

oDesk also provides collaboration, communication and management tools. For example, programmers log in through the oDesk Workplace so that employers can see when they're online and even view screenshots of what they're working on at the rate of six snapshots per hour.

Troyer's main reason for contracting with a Russian programmer was cost. "Instead of $8,000 per month for a Ph.D. programmer, I'm paying a quarter of that, even with oDesk's added fees," he says. Troyer also pays a local programmer to review Alex's work for a couple of hours each week at $85 per hour. He says he finds it easier to manage Alex than a non-oDesk programmer, even one based in the U.S., because he knows exactly when Alex is working and what he's working on. Alex starts to work at 10 p.m. his time, which is noon in Troyer's Colorado Springs location.

According to Gary Swart, CEO of oDesk, about a third of the providers are from India, a third are from Eastern Europe, and another third are from the rest of the world, including the U.S. "We have guys working at Tata and Wipro during the day and then working through us at night," he says.

– MARY BRANDEL

containing information on more than 500 offices in 90 countries. Almost all of the information is locally managed, Kirch says.

"We don't want to have a situation where a person in China comes to the site and sees a photograph of someone who doesn't look like they're from China," he says. "The content is very localized so people can relate to it and are attracted to it."

Even so, Kirch says, positions are advertised on job boards in several countries with the idea of attracting talent both near and far. "We're hard-pressed to find talent quickly enough to meet our business needs," he says. "Our approach for recruitment, even for our local companies, is global."

In addition to its 5,000-person IT operations in Hyderabad, India, Deloitte employs a few programmers who work remotely in other countries. "That's definitely a trend, and I think it will continue to become more common," Kirch says.

Deloitte relies heavily on online job boards and employee referrals in addition to its own Web site. It is currently establishing a cross-border employee referral program in which it rewards people who successfully refer overseas colleagues or friends.

"The workforce is more globally mobile today," Kirch says, "so odds are greater that you or I might know a potential candidate in another country."

Regional Variations

To recruit successfully, employers have to be wary about regional differences, such as the need to tailor benefits to the local culture.

For instance, Google Inc.'s Web site offers a "cycling plan" to its employees in Ireland, in which it contributes €200 toward the cost of a bicycle. And in India, Deloitte's Web site offers free company-organized transportation that shuttles employees in Mumbai and Hyderabad from pickup points across those cities to its offices.

"It's very difficult to recruit cross-border if you don't have the right approach and awareness," Crotts says. "I always have the local HR representative right beside me to make sure I'm hitting the marketplace with the right initiatives and terms and conditions."

Companies also have to be familiar with country-specific legal requirements and traditions, Wheeler adds. For example, terminating employment in Germany is a very involved process that requires 60 to 90 days' notice and is subject to approval by the government. For this reason, he says, smaller companies without global recruiting offices often leave it to local recruiting firms to do the hiring negotiations.

Cultural differences also make it difficult to accurately assess the credentials of foreign candidates, Wheeler says. For instance, it's common for European résumés to include photographs and personal information such as weight and age. "Legally, [in the U.S.] you can't even look at this stuff," he says.

Even interpreting skill sets is difficult, since three years of programming in Israel is quite different from the same number of years of experience in the U.S. "You're not comparing apples to apples in many cases," Wheeler says.

To help feel a bit closer to far-away job candidates, some companies are turning to online referral networks such as LinkedIn to find someone who knows a candidate personally, Wheeler says. Or they might use search tools such as ZoomInfo or Jigsaw, which are designed to verify or discover information such as a job candidate's previous employers, job titles and other affiliations.

Know Your Limits

But no matter how flat the world may look when viewed through the lens of Internet-enabled communications, the virtualized global workplace still has limitations, according to Crotts. For example, he has developed a rule of thumb to avoid sourcing a team of programmers from more than two countries.

"The more countries involved in the development project, the higher risk the project," he says, citing obstacles such as time-zone differences, methodology inconsistencies, language problems and evolving requirements that are difficult to track and discuss when teams are distributed too widely.

"It's absolutely incorrect to say I can use global resources without concern for where a person's home base is," Crotts says.

Still, Wheeler contends that companies will increasingly hire talent no matter where that talent resides and then struggle to coordinate and manage the virtual workplace.

"Rather than bringing people to the work, work is increasingly going to the people," he says. "We'll see more employers saying, 'Live your life, and we'll send you a paycheck every week.'" ▸

Brandel is a Computerworld *contributing writer in Newton, Mass. Contact her at marybrandel@verizon.net.*

Managing MULTICULTURAL Teams

WINNING STRATEGIES FROM TEAMS AROUND THE WORLD

IT managers know that multicultural teams create multifaceted challenges. Subtle obstacles to teamwork resulting from cultural or linguistic disconnects can cause real damage before a manager even realizes what's happening. In the November issue of Harvard Business Review, **Jeanne Brett**, *Kristin Behfar and Mary C. Kern discuss what they've learned from multicultural teams worldwide. Brett, director of the Dispute Resolution Research Center at Northwestern University's Kellogg School of Management, talked with Kathleen Melymuka about successful strategies for meeting the challenges these teams pose.*

JEANNE BRETT: Respect is key to managing multicultural teams.

You write that multicultural teams face four barriers to success. Let's talk about the first: direct vs. indirect communication. A woman was working for a U.S. company in its Japanese office, which was checking software for Y2k. She found a mistake and e-mailed a notification to her boss and her three Japanese interfaces in Japan. They lost so much face because of that.

What should she have done? In Japan, you have to go about it indirectly so they don't lose face. She might have had a meeting with her Japanese counterparts, raised the specter of this kind of problem lurking in the system and asked what would be the implication if it were in there. They would have understood, "She found it; we've got to fix it." But by working with them very directly, she embarrassed them. She became more isolated than ever before, and any relationship-building she had been able to accomplish was lost.

GLOBAL HIRING
See related story: "Fishing in the Global Talent Pool" PAGE 33

Another challenge is trouble with accents and fluency. When team members have accents or lack vocabulary in the language of the team, often they're reluctant to speak up on an area of their expertise. So the team loses out on their expertise. And when they do speak up, if team members who are not very tolerant of accents don't listen to them, that generates a self-reinforcing stigma: They become even more reluctant to speak up. And the team loses their expertise.

There are also differing attitudes toward hierarchy and authority. In a hierarchical culture like India's, there's a lot of deference to senior people, either by age or level in the organization. There's a reluctance to question a senior person. So Indian engineers in multicultural teams see Americans arguing with the team lead or with older people, and culturally they're not comfortable doing that, so the team passes them by and everybody loses.

Finally, you cite conflicting norms for decision-making as a potential problem. A very highly respected American software engineer was running a team that was doing a project for an Israeli client. So the American goes to Israel and gets blasted with questions from team members and the client. He was used to being respected as someone who really knew what he was doing, so he had a hard time with that. Ultimately, he realized that they weren't questioning his ability; it was just their way of digging deeper into his knowledge.

Let's look at some of the strategies successful teams use to deal with multicultural problems. The first is adaptation. It means that people see the problem as not an issue of personalities but as cultural difference. Once they do that, it's amazing how much they can live with it.

And a subset of that is fusion. Can you explain? Fusion allows the coexistence of multiple approaches. In teams, there may be synergies from approaching problems in multiple ways because we'll get more insight and preserve the unique perspectives of people who approach problems in different ways. In a lot of places in Latin America, they take the two-hour siesta. The North Americans would say they're not pulling their weight. But then they realized the Latin Americans were still working at 9 and 10 at night, when they had gone home. So they learned that they could send a problem to the Latin American office at the end of their day, and they would have it solved by next morning. Rather than accuse people of being lazy, they learned to use those differences.

Another strategy is managerial intervention. When does that make sense? Doing it right often means doing it early in the life of the group. The manager sets some norms of what's appropriate and what's not. One IT manager had a group from all over the world with lots of accents. And with technical words, it's worse, because people have seen them only in print. So he told the team that no one had been picked for English skills; they were picked because each was technically the best person for job, so get over the accents. He set norms of respect. Later, when they were installing the system and interacting with customers, that manager told team members to tell the client: "I know I have an accent; if I could get rid of it I would. I want to be sure we communicate, so if you don't understand me, don't hesitate to stop me, and we'll go at whatever pace it takes so that I can make you understand me."

Finally, there's the exit strategy. Sounds like a last resort. It is. We interviewed people on permanent and short-term teams. When people could see the end and knew they would get reassigned, they would do what we call "lump it" — swallow their pride and cope. With much longer-term teams, we found occasional examples of people leaving. Instead of trying to change the situation or the people, they just moved on.

Is that for the best? Skilled IT people can almost always find another assignment. And when emotions get so high and so much face has been lost, it's almost impossible to get things back to an equilibrium where people can work together again. If I'm not talking to you, I can still build my part, but it won't work with your part.

What's your advice to IT managers of multicultural teams? The most fundamental thing is to be a role model for respect. It rubs off on the other members of the team. Helping team members see that problems are due to cultural differences and not personality helps a lot. And if you're able to help the team see that the behavior that's so frustrating and annoying is due to culture, then people get curious: How do they get anything done in that culture? And when you unleash curiosity, that inspires learning. The last thing is, don't intervene too swiftly. If they can always bring a problem to your door and you solve it, they don't learn to solve it themselves.

CULTURE CLASH

Problems for multicultural teams:

- Direct vs. indirect communication
- Trouble with accents and fluency
- Differing attitudes toward hierarchy and authority
- Conflicting norms for decision-making

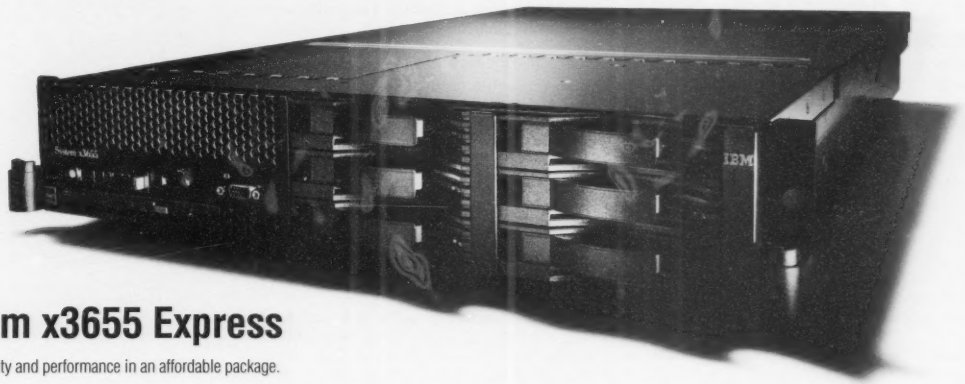
Strategies for multicultural teams:

- **Adaptation** – acknowledging cultural gaps openly and working around them
- **Structural intervention** – changing the shape of the team
- **Managerial intervention** – setting norms early or bringing in a higher-level manager
- **Exit** – removing a team member

By 2010, the increase in expense to power and cool servers is projected to be approximately four times the increase in new server spending.[1] The IBM System x3655 Express can help control rising energy costs starting today. How? It comes with an ingenious technology called PowerExecutive,™ which allows you to allocate power to each server, helping to optimize and save you money.[2] Only IBM has it. The x3655 is just one of many Express systems designed for business performance computing. With IBM, innovation comes standard. So why waste energy on anything else?

IBM

AUTOMATICALLY PUTS YOUR BUSINESS INTO ENERGY-SAVING MODE.



IBM **System x3655 Express**

Mission-critical availability and performance in an affordable package.

- Monitor power consumption and allocate power where needed with PowerExecutive
- 64GB maximum low-power DDR2 memory
- Choose flexibility and robust I/O configuration with IBM eXtended I/O
- Featuring the Next-Generation AMD Opteron™ processor with AMD PowerNow!™ technology
- Limited warranty: 3 years on-site[3]

From **$2,359*** or **$61**/month[4]

AMD 64 Opteron

WHY WAIT?
PAY $0 FOR THE NEXT 3 MONTHS.

Get the System x3655 Express now and defer payment for the next 3 months.

Learn more at:

ibm.com/
systems/innovate60

1 866-872-3902
mention 104CE45A

All prices are IBM's estimated retail selling prices as of October 3, 2006. Prices may vary according to configuration. Resellers set their own prices, so reseller prices to end users may vary. Products are subject to availability. This document was developed for offerings in the United States. IBM may not offer the products, features or services discussed in this document in other countries. Prices subject to change without notice. Starting price may not include a hard drive, operating system or other features. Contact your IBM representative or IBM Business Partner for the most current pricing in your geography. 1. Based on "IDC, 'The Impact of Power and Cooling on Data Center Infrastructure,' Document #201722, May 2006" page six, which highlights that a rapidly rising server-installed base is projected to drive an increase in the cost of power and cooling over the next five years. 2. PowerExecutive can help save power during periods of lower utilization. 3. IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply. Telephone support may be subject to additional charges. For on-site labor, IBM will attempt to diagnose and resolve the problem remotely before sending a technician. On-site warranty is available only for selected components. 4. IBM Global Financing offerings are provided through IBM Credit LLC in the United States and other IBM subsidiaries and divisions worldwide to qualified commercial and government customers. Monthly payments provided are for planning purposes only and may vary based on your credit and other factors. Lease offer provided is based on a FMV lease of 36 monthly payments. Other restrictions may apply. Rates and offerings are subject to change, extension or withdrawal without notice. Information about non-IBM products is obtained from the manufacturers of those products or their published announcements. IBM has not tested those products and cannot confirm the performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products. IBM, the IBM logo and PowerExecutive are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. AMD, the AMD logo, AMD Opteron and AMD PowerNow! are trademarks of Advanced Micro Devices, Inc. Other company, product and service names may be trademarks or service marks of others. ©2006 IBM Corporation. All rights reserved.

Required Reading

A famously challenging book list is central to SIM's legendary Regional Leadership Forums. Here's how it's derived.

Q&A

Since 1992, more than 1,300 up-and-coming IT leaders have graduated from the Regional Leadership Forums (RLF) conducted by the Society for Information Management. As a part of these comprehensive nine-month programs, attendees are required to read and discuss 30 selected books. For some of these titles, such as Orbiting the Giant Hairball, *the link to IT leadership isn't immediately apparent, but there is a method to the madness, says RLF director* **Bob Rouse**. *He recently let* Computerworld's *Thomas Hoffman in on the secrets of how the Chicago-based network for IT leadership annually chooses the books that will educate and inspire future generations.*

How does SIM come up with the recommended reading list for each RLF class? It's a very dynamic process. Almost every month, we get suggestions from previous graduates and current RLF attendees. We get a list of 50 to 60 candidate books each year. Facilitators review the books. Then we argue about this for about four months beginning in February, and we decide in June.

BOB ROUSE

What are some of the criteria that go into the discussion? We have selection criteria. There are typically five categories for books: books that are aimed at developing people's leadership skills, developing peers and subordinates, [those that teach] ways to improve our own organizations. A fourth [category] is trends in the workforce, in organizational structures and in new technologies. And books that are strictly leadership books. There are lots of excellent books about leadership.

Why might a book get taken off the list? There are a number of factors. First, there are books that don't sing as well as we thought they would. We're always looking for books that carry at least one of the core messages of the forum, to accomplish what we want it to do. There will be books that just don't talk to participants in an effective way, so we take them off the list. The debate [among facilitators] is lively and can get fairly heated at times.

The first book on the recommended reading list is *How to Read a Book*. Why? We find that most of the participants who are 35 and older and have been in IT for 15 or 20 years have received a lot of training in work but haven't been involved in a lot of reading courses. [Co-author Mortimer J.] Adler provides a strategy for reading a book — what types of questions to ask while you're going through it and how to really attack a book. It tells you things about reading that your third-grade teacher never taught you, like how to have a conversation with the author. It's a point-of-view book. It's been on the list since the beginning. It's almost become a tradition among the RLF graduates. It's incredibly well written from a prose perspective, [but] it's a difficult book to get through — it's very meaty.

How was the current crop of new books selected? There are six or seven new books on the list, which means that we left behind old books that we liked. But there were some changes we felt we needed to bring to the fore. One new book, *Resonant Leadership*, examines new brain research that's been done over the past 20 years and how [brain cells] recharge. It's one of those new genre of leadership books that discusses why balance is important, not from a philosophical perspective but from a biological perspective.

Another new book, used in the past and re-added, is called *Death by Meeting*. This has traditionally had a high impact on the readers. This is one of those books where people said they went back and did two or three things [differently after having read the book].

Another new book this year is called *Leadership Passages*. This has a similar flavor to Gail Sheehy's *Passages*, about how one's leadership capacity will change over time with experience.

Do RLF attendees have to read all 30 books? Yes. What people get out of a book is quite different from one another. If you've read the first 100 pages of a book and haven't made that [intended] connection, chances are you aren't going to make that connection throughout the rest of the book. But if you listen to feedback about that book at the forum meeting, you might learn that you missed a crucial point. Sometimes the book opens up an area of exploration. By and large, everyone reads the books. I think all the graduates discover that their reading helps to foster a habit of continuous learning.

How has the reading list evolved over the past few years? I think the most obvious change has been [an emphasis on] learning how to lead in different times and places. Many of the people attending forums have teams they're managing that are multinational — projects, teams and facilities they're managing across the world. How does leadership project itself into a culture and a way of life that's much different than what you've been exposed to?

We were taught [as IT professionals] to improve our communication skills. One [such skill] is to communicate in many different ways. The second thing is to learn that folks working with you who are under 35 communicate much more effectively than you do by using computer media such as audio, video and text. That causes leaders to have to listen in much different ways than just verbal listening. ▸

The List

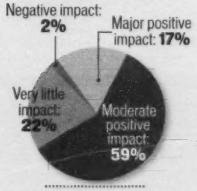
Here's the Society for Information Management's 2007 Regional Leadership Forum book list:

- **How to Read a Book**, Mortimer J. Adler and Charles Van Doren (Touchstone)
- **Resonant Leadership: Renewing Yourself and Connecting With Others Through Mindfulness, Hope and Compassion**, Richard E. Boyatzis and Annie McKee (Harvard Business School Press)
- **The Heart of Change: Real-Life Stories of How People Change Their Organizations**, John P. Kotter and Dan S. Cohen (Harvard Business School Press)
- **Managing Transitions: Making the Most of Change**, William Bridges (Perseus Books Group)
- **First, Break All the Rules: What the World's Greatest Managers Do Differently**, Marcus Buckingham and Curt Coffman (Simon & Schuster)
- **Leadership Passages: The Personal and Professional Transitions That Make or Break a Leader**, David L. Dotlich, James L. Noel and Norman Walker (Jossey-Bass)
- **Winning 'Em Over: A New Model for Management in the Age of Persuasion**, Jay A. Conger (Simon & Schuster)
- **Leadership Is an Art**, Max DePree (Currency)
- **Man's Search for Meaning** Viktor E. Frankl (Pocket)
- **The World Is Flat: A Brief History of the Twenty-first Century**, Thomas L. Friedman, Farrar Straus Giroux
- **Authentic Leadership: Rediscovering the Secrets to Creating Lasting Value**, Bill George (Jossey-Bass)
- **Gandhi** – the 1982 film
- **Working With Emotional Intelligence** Daniel Goleman (Bantam)
- **The Theft of the Spirit: A Journey to Spiritual Healing**, Carl Hammerschlag (Fireside)
- **The Nibble Theory and the Kernel of Power: A Book About Leadership, Self-empowerment and Personal Growth**, Kaleel Jamison (Paulist Press)
- **The Wisdom of Teams: Creating the High-Performance Organization**, Jon R. Katzenbach and Douglas K. Smith (Collins)
- **Death by Meeting: A Leadership Fable About Solving the Most Painful Problem in Business**, Patrick M. Lencioni (Jossey-Bass)
- **The Prince**, Niccolo Machiavelli (Bantam Classics)
- **Orbiting the Giant Hairball: A Corporate Fool's Guide to Surviving With Grace**, Gordon MacKenzie (Viking Adult)
- **Leading With Questions: How Leaders Find the Right Solutions by Knowing What to Ask**, Michael J. Marquardt (Jossey-Bass)
- **Creating the Good Life: Applying Aristotle's Wisdom to Find Meaning and Happiness**, James O'Toole (Rodale Press)
- **Crucial Conversations: Tools for Talking When Stakes Are High**, Kerry Patterson, Joseph Grenny, Ron McMillan and Al Switzler (McGraw-Hill)
- **The Social Contract**, Jean-Jacques Rousseau (Penguin Classics)
- **The Zen of Listening: Mindful Communications in the Age of Distractions**, Rebecca Z. Shafir (Quest Books)
- **Synchronicity: The Inner Path of Leadership**, Joseph Jaworski (Berrett-Koehler Publishers)
- **The Leadership Moment: Nine True Stories of Triumph and Disaster and Their Lessons for Us All**, Michael Useem (Three Rivers Press)
- **Two Old Women: An Alaska Legend of Betrayal, Courage and Survival**, Velma Wallis (Harper Perennial)
- **The Heart Aroused: Poetry and the Preservation of the Soul in Corporate America**, David Whyte (Currency)
- **Never Let Me Go**, Kazuo Ishiguro (Vintage)
- **Thinkertoys: A Handbook of Creative-Thinking Techniques, 2nd Ed.**, Michael Michalko (Ten Speed Press)

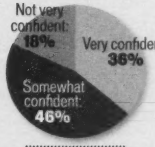
QUICK HITS

IT's Impact

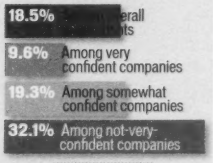
Overall business impact from technology spending over the past three years



Confidence of achieving optimum return on IT spending

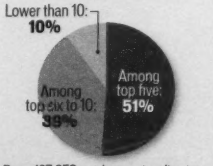


Percentage of IT spending that is wasted or not very effective


18.5% Overall
9.6% Among very confident companies
19.3% Among somewhat confident companies
32.1% Among not-very-confident companies

Fiscal accountability of the technology function

Confidence of achieving optimum return on IT spending



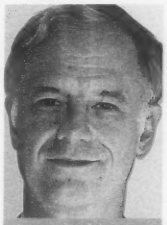
Base: 107 CFOs and managing directors of U.S.-based multinational businesses

SOURCE: PRICEWATERHOUSECOOPERS' MANAGEMENT BAROMETER SURVEY, SPRING 2006

BART PERKINS

Managing IT as a Professional Services Firm

INFORMATION technology organizations that are perceived as expensive, unresponsive and unable to deliver effectively are often viewed as good candidates for outsourcing. To increase their effectiveness (and avoid such a dire future), savvy Fortune 500 IT organizations are adopting some management concepts from professional services organizations such as consulting, legal and accounting firms.



BART PERKINS is managing partner at Louisville, Ky.-based Leverage Partners Inc., which helps organizations invest well in IT. Contact him at **BartPerkins@LeveragePartners.com.**

One hallmark of well-run professional services firms is their intense focus on their clients (see "IT Attitude Check," Oct. 23). PSFs consistently give their clients' needs the highest priority when allocating staff and funding. The client is the center of the firm's universe.

Professional services firms also do the following:

■ **Value their employees as their primary asset.** In reality, people are the only real asset of a professional services firm. Well-run PSFs spend significant time recruiting, mentoring and retaining the best people.

■ **Create meritocracies.** Successful PSFs value and promote individuals based on merit, not seniority. They reward results and recognize achievements publicly. They offer regular, honest performance reviews and award significant bonuses and raises for outstanding contributions. They also prune their underperformers. Most IT organizations could place significantly more emphasis on candid feedback and public recognition, even if salary budgets are meager.

■ **Emphasize continuous learning.** PSFs constantly strive to increase employee skills and broaden organizational capabilities. Continuing education is encouraged, valued and funded. Many IT organizations have cut budgets for ongoing training and education. If yours has, fight to restore these funds. Education will strongly affect your organization's future competence.

■ **Offer breadth of experience.** PSFs give their employees experience with a wide variety of clients and industries. IT employees should gain similar breadth by interacting with multiple levels of management across a variety of departments. Rotate staff assignments when possible; IT staffers who get stuck supporting a single system for many years often leave the company to expand their skills and experience.

■ **Recognize that everyone sells.** Although few IT professionals realize it, they "sell" every time they suggest ways for IT to improve business operations. Highly technical staffers often feel that selling is not part of their job. Ultimately, though, it's everyone's job. IT workers will sell more effectively if they are adequately prepared for this role. Provide basic sales training for staffers who have frequent contact with other departments, suppliers or potential customers.

■ **Create great teams.** Successful teams include the right skills, and egos that are willing to take a secondary role for the good of the team. A great example was the world champion Boston Celtics during the Larry Bird era. Bird, the consummate team player, often gave up personal glory for the success of the team. Diversified skills, team spirit and real cooperation are essential to team success, especially in outsourcing and offshore efforts that require global teams.

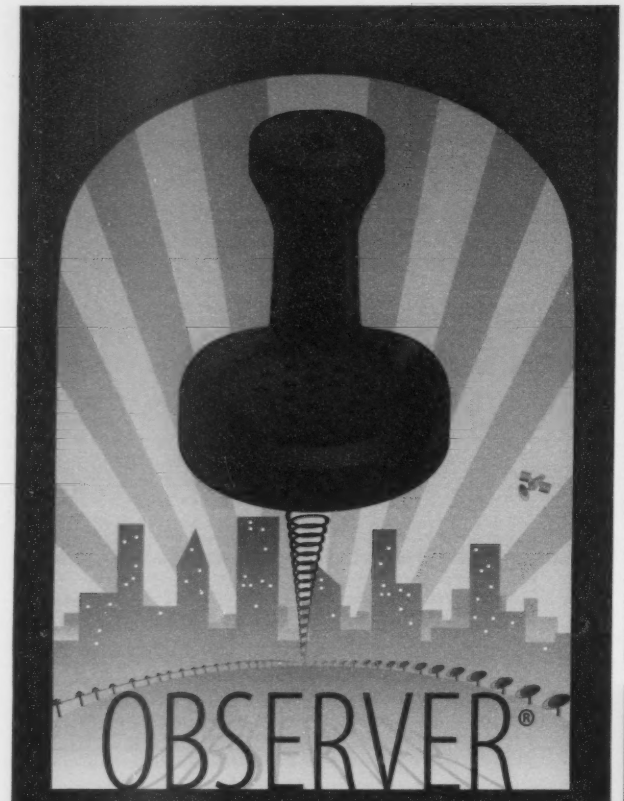
■ **Provide real customer service.** PSFs use client satisfaction as a cornerstone of employee reviews and advancement. Empower employees at all levels of your organization to do the right thing for customers. In *Moments of Truth* (Ballinger Publishing, 1987), Jan Carlzon, CEO of SAS Airlines, noted that even the briefest interactions with ticketing agents or flight attendants greatly affected customer satisfaction. Similarly, customers quickly form a positive or negative perception of your company through their interactions with your IT help desk or support staff. Those who focus on talk-time metrics rather than on addressing the customer's problem can do more harm than good. Empowered employees make every effort to satisfy the customer. Make sure both your day-to-day and annual performance measurements (as well as your reward systems) reflect this goal.

■ **Maintain good relationships with "alumni."** Many people find the broad exposure offered by PSFs beneficial for gaining wide industry exposure, then they leave the PSF to pursue a more specialized career. The best PSFs realize that these alumni may become buyers of professional services down the road. Some PSFs even operate alumni networks to facilitate continuing communication. IT staffers who leave your company will often resurface at a customer, supplier or competitor. Make all departures as professional as possible.

Use PSF best practices to transform your customers and employees into long-term business partners. (See David H. Maister's books and articles for additional suggestions.) You may need to adapt or alter some of these to fit your company, but they offer excellent ways to increase IT effectiveness.

WANT OUR OPINION?

For more columns and links to our archives go to: **www.computerworld.com/columns**



a new era of VoIP analysis

You convinced management to deploy VoIP.

Now ensure that it will run smoothly.

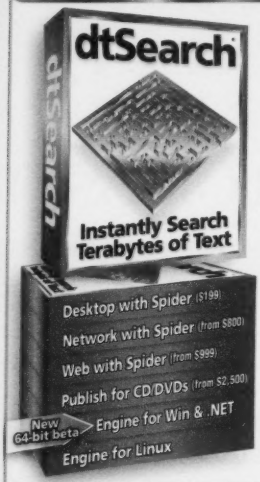
Rely on Network Instruments' Observer to help keep VoIP communications running at optimal performance.

Learn more.
1-800-566-0919
networkinstruments.com/voip

NETWORK® INSTRUMENTS

©2006 Network Instruments, LLC. All rights reserved. Network Instruments, Observer, and all associated logos are trademarks or registered trademarks of Network Instruments, LLC.

Instantly Search Terabytes of Text


dtSearch
Instantly Search Terabytes of Text
Desktop with Spider ($199)
Network with Spider (from $800)
Web with Spider (from $999)
Publish for CD/DVDs (from $2,500)
New 64-bit beta
Engine for Win & .NET
Engine for Linux

- over two dozen indexed, unindexed, fielded data and full-text search options
- highlights hits in HTML, XML and PDF, while displaying links, formatting and images
- converts other file types (database, word processor, spreadsheet, email and attachments, ZIP, Unicode, etc.) to HTML for display with highlighted hits
- Spider supports static and dynamic Web content, with WYSWYG hit-highlighting
- API supports .NET/.NET 2.0, C++, Java, SQL databases. New .NET/.NET 2.0 Spider API

dtSearch® Reviews

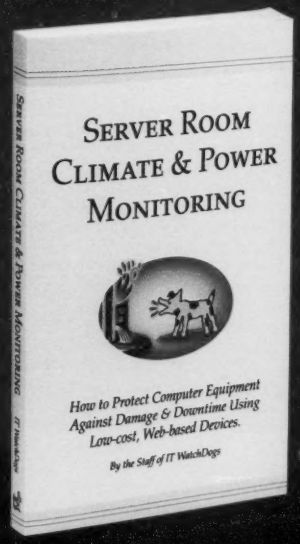
- "Bottom line: dtSearch manages a terabyte of text in a single index and returns results in less than a second" – *InfoWorld*
- "For combing through large amounts of data, dtSearch "leads the market" – *Network Computing*
- "Blindingly fast"– *Computer Forensics: Incident Response Essentials*
- "Covers all data sources ... powerful Web-based engines" – *eWEEK*
- "Searches at blazing speeds" – *Computer Reseller News Test Center*
- "The most powerful document search tool on the market"– *Wired Magazine*

For hundreds more reviews — and developer case studies — see www.dtsearch.com

Contact dtSearch for fully-functional evaluations

The Smart Choice for Text Retrieval® since 1991

1-800-IT-FINDS • www.dtsearch.com


Server Room Climate & Power Monitoring
How to Protect Computer Equipment Against Damage & Downtime Using Low-cost, Web-based Devices.
By the Staff of IT WatchDogs

Server room climate worries?

Get our free book.

E-mail FreeBook@ITWatchDogs.com with your mailing address or call us at 512-257-1462.

Are you an employer looking for skilled IT Professionals?

Place your Employment Ads here!

Let us be your direct line of communication to qualified IT Professionals with the most in-demand IT skills.

IT|careers
COMPUTERWORLD
Contact us at:
800.762.2977

Computer Professionals for Bedford, TX. Programmer Analysts: Develop database systems in Oracle, VB, PL/SQL, Developer 2000, Designer 2000,Windows, Unix. Perform unit, system and integration testing. Bachelors or Eqv. req'd in Computers, Eng, Math or any related field of study plus 2 yrs of related exp. Software Engineers: Design, develop & test software using Java, C, C++, VB, XML, UML,J2EE,ClearCase, ClearQuest, Crystal Reports. Masters or Eqv** req'd in Computers, Eng, Math or related field of study + 1 yr of related exp. (**Eqv.: Bachelors or Eqv. + 5 yrs of progressive related work exp). 40 hrs/Wk. Must have legal authority to work permanently in the U.S. Contact HR Manager, Regency Technologies, Inc., 1400 Brown Trail, Bedford, TX 76022

Claymont Steel Inc. seeks Design Engineer. MS in Comp. Sci/Eng./eqv., 3 mos. exp. Resumes: HR Manager, 4001 Philadelphia Pike Claymont, DE 19703.

Programmer Analyst w/2 yrs & analyze, design & implement s/ware appli. using Java, C, C++, MS SQL, ASP, Active X, HTML & Visual Basic. Design & dev. program that can monitor sales, inventory, shipping, account payable & receivable. Provide technical support to the system. Mail res to: Broadway Watch Outlet, Inc., 1234 Broadway, Ground Floor 8/1, New York, NY 10001, Job Loc: NYC

Chief Technology Officer. Send resume attn: Human Resources Manager, Plexus Scientific Corp., 4501 Ford Ave., Ste. 1200, Alexandria, VA 22302

Chino Valley Medical Center, located in Chino, CA, seeks a Programmer Analyst. The position requires a Bachelors degree in Information Technology or equivalent and five years of progressive experience in Database Administration, Network Analysis, and Object Oriented Programming. Mail your resumes to Betty Harris, Human Resource Director, at 5451 Walnut Ave, Chino, CA 91710 or fax your resumes to 909-464-8997, Attn.: Betty Harris

NETWORK ADMINISTRATOR (Flushing, NY) – Administer Novell networks & GroupWise email system. Configure TCP/IP networking on Windows NT, 2000, and XP. Install software applications & network cards. Maintain existing/altered systems after upgrades & alterations in existing programs. Troubleshoot communication hardware, software & transmission problems. Train end-users in use of system programs after upgrades & alterations. Support network applications. Manage network users accounts network security, network backups & network printing. Support network Infrastructure. Prepare & maintain documentation of all network info. Manage network projects involving research of network products, services & info from outside vendor. 9:00am-5:00pm; 37.5 hrs per wk; $55,000 per yr; BS Info Systems/Comp Sci & 2 yrs exp. or MS Info Systems/Comp Sci req'd. Mail/Fax CV to Backlog Elimination Ctr/ETA, Div. of Foreign Labor Certification, 1 Belmont Ave., Ste. 220, Bala Cynwyd, PA 19004, fax to 484-270-1600. All applications/CV must include Ref: JO # 34789248 & ETA Case # P-05049-50890cbo-9.

Software Engineer: Involve in all phases of the software life-cycle development process, from project definition to post-deployment documentation. Design, develop, implement, and customize applications and systems based on user needs. Design and develop DirectShow Filters, File System Drivers, skin able GUI and Client/Server applications for digital/streaming videos, and games. Duties entail working with C++, VC++, MFC, Win32 SDK, WinSock, ODBC, Direct Show, Direct Draw, Subversion, Power Builder and SQL Server. Masters or Equivalent in Computer Science, MIS, CIS, Engineering (any field), Technology, Business, Mathematics, or related with two years of experience. Salary DOE. Email resume to hr@sisincorp.com or mail to Software Integration Services, 12130 Cedar Trace Drive S, Jacksonville, FL, 32246.

RF engineer wanted by MobileNet Services to perform network testing, optimization, RF network design, hardware configuration. Minimum requirement is MS in Telecom system & 1-yr exp as RF engineer. Send resume to 6 Morgan, #118, Irving, CA 92618. EOE.

Fantapak International seeks network administrator to handle enterprise level network, implement Small Business Server, MAS90 with Liaison Messenger, SSL Websites. Must have MS/BS with related exp. Send resumes to annachang@fantapakdomain.com. EOE

Harcourt Assessment Inc., which acquired Ordinate, seeks a senior software engineer (in Test) for its Menlo Park, CA location. Duties include: Design, develop, and implement quality assurance parameters and metrics to monitor, analyze and improve product quality. Send resume to Harcourt's Corporate headquarters, ATTN: Sr. Mgr. of HR, 19500 Bulverde Rd., San Antonio, TX 78259. Put job code PC0997 on resume.

Marlabs, Inc is an Edison, NJ-based software and technology consulting company. The candidates may be assigned to work at client sites across the US. We have multiple openings for IT Professionals (Project Managers/ Team Leads / Software Engineers, Programmer Analysts, System/Network Analysts and Administrators, Database Administrators and Application Developers, System and Business Analysts, Quality Assurance/testing) with several of the following skills and relevant experience:
Web Technologies:
Web Tools such as J2EE, Java, JSP, Java Servlets, EJB, XML, NET, HTML, DHTML, UML, ASP, Visual Interdev, MTS, & PERL/CGI, PHP, Visual Basic/Visual Studio.
Web Application Servers such as WebObjects, SUN JES, Web Logic, WebSphere, ColdFusion, ATG, Netscape, IIS & IBOLT, Dominos, Documentum, iplanet, Oracle, J2EE, and related applications.
Internet, Intranet and other Web technologies and applications – including Architecture, Server-Side and Middle-Tier development.
Application Development:
Application Development integrating database backend, a middle tier server and a GUI/Web interface.
Object Oriented Application development using technologies such as C, C++, C##, Java, etc.
Statistical Applications such as SAS, SPSS, Minitab, and Matlab
Development Tools such as C, C++, PHP, PERL, Visual Studio, Visual C++, Visual Basic, PowerBuilder, Lotus Notes & .NET (including VB.NET, ASP.NET and C##.NET).
Data Mining / Data warehousing/Business Intelligence using applications such as Business Objects, SAS, Brio, Informatica, Microstrategy, Statistica, Eagle Pace, Cognos & ERWIN.
ERP/CRM such as Oracle Applications, Siebel, Peoplesoft, Broadvision & SAP, Peoplesoft, BAAN, JD Edwards, Microsoft/Great Plains.
Databases (mainframe/midrange/client-server) such as Oracle, Informix, Sybase, SQL Server, MySQL, DB2 and Cobol.
Systems Administrators with Experience in several of the following: System (UNIX, Windows / Windows NT, LINUX, RTOS, Sun Solaris, AIX, HP); Network (LAN/WAN/ CISCO/HP) Administration,. Security Analysis and Design, Database Administration.
Business Analysts, Security, and Quality Assurance professionals for any or all of the above technologies and various industry sectors such as business, finance, telecom, pharmaceutical etc. Also specialists in regulatory / statutory compliance such HIPAA or SarbOx, business analysis, security/audit policy, certification and/or accreditation.
Also seek professionals in Biotechnology and Bioinformatics to assist clinical trial process and interpret the resulting clinical data.
All positions require Bachelor's or equivalent and 2-5 years of industry experience, or a Master's degree. Relocation possible to client locations which will be anywhere in the continental US. All responses to this ad must include the Job Code reference 61151. Marlabs is an equal opportunity employer. Submit resume to: Marlabs, Inc. c/o Computerworld/IT Careers, Box 9171, Framingham, MA 01701

Software Engineer w/Masters or for. equiv in Comp Sci or Engg or Math & 1 yr exp to research, analyze, dvlp & integrate applic s/ware within SDLC across multiple lines of bus.. Dsgn, deploy & maintain supporting d/base queries, stored procedures, triggers, tables & packages. Implmt & customize systm s/ware & dvlp client server & web applics using VB, Java Script, Java/J2EE, ASP.Net, HTML, XML, XSL, IIS, SQL Server, Oracle, DB2, Sybase, MS SQL, DHTML on ScoUnix, Windows & Linux O/S. Mail res to: Electro Mechanical Solutions Inc., 1551 Gunn Hwy, Odessa, FL 33556. Job Loc: Odessa, FL

Database Administrator (Pharma/Finance) wanted by New Jersey based Co involved in Quantitative Marketing Analysis for Pharmaceutical Industry. Must have Masters in Comp. Sc., MBA (MIS/Finance) or equivalent, and 2 years of experience in computer software developing and/or consulting. Must also be proficient in Oracle, RDBMS managing tuning data and understanding financial concepts. Must also have Oracle certification. Multiple openings. Respond to: HR Dept., Health Products Research, Inc., 200 Cottontail Lane/Vantage Court South, Somerset, NJ 08873 or 18192.ventiv@hiredesk.net. No phone calls. (Ref. GG8206IM).

Technical Team Lead for an international consulting and systems integration firm (Boston, MA) to be responsible for: supporting and managing business development efforts; solving client problems and managing the technology track throughout sales and development; facilitate large and complex client meetings and project manage up to $1Million in scope and 10 person project teams. Must be viewed as a mentor and leader by peers in areas of custom software development. Previous experience leading and managing technical teams and implementation of detailed project plans is required. Send responses to amy@optaros.com. Job #TLRS

Sr. Unix Administrator w/Masters or for. equiv in Comp Sci or Engr or Math & 1 yr exp to install, configure, admin & support Sun Solaris servers, Red Hat Linux, IBM AIX servers & Windows incl performance monitoring & tuning, backup & recovery of servers. Dsgn E Business 3 tier architecture models. Dsgn, dev. & admin. Appli. using Iplanet directory server, Vignette Story server, IBM Websphere applic server, Netgrity Siteminder server, messaging & webservers, Sun One Iplanet webserver & Netscape Directory server. Mail res to: BCC USA-MA, Inc., 1506 Providence Hwy, Ste #27, Norwood, MA 02062. Job loc: Norwood, MA or in unanticipated locations in US

COMPUTERWORLD HEADQUARTERS

One Speen Street, P.O. Box 9171
Framingham, MA 01701-9171
Phone: (508) 879-0700
Fax: (508) 875-4394

PRESIDENT/PUBLISHER/CEO
Matthew J. Sweeney
(508) 271-7100

EXECUTIVE ASSISTANT TO CEO/ CORPORATE COMMUNICATIONS MANAGER
Laureen Austermann
(508) 820-8522

VICE PRESIDENT/ GENERAL MANAGER ONLINE
Martha Connors(508) 620-7700

VICE PRESIDENT/MARKETING
Matt Duffy
(508) 820-8145

VICE PRESIDENT/ CUSTOM CONTENT
Bill Laberis
(508) 820-8669

VICE PRESIDENT/ HUMAN RESOURCES
Julie Lynch
(508) 820-8162

EXECUTIVE VICE PRESIDENT/ STRATEGIC PROGRAMS
Ronald L. Milton
(508) 820-8661

VICE PRESIDENT/ONLINE SALES
Gregg Pinsky
(508) 271-8013

EXECUTIVE VICE PRESIDENT/COO
Matthew C. Smith
(508) 820-8102

VICE PRESIDENT/ EDITOR IN CHIEF
Don Tennant
(508) 620-7714

VICE PRESIDENT/CIRCULATION
Debbie Winders
(508) 820-8193

CIRCULATION
Sr. Circulation Specialist/Diana Turco, (508) 820-8167

PRODUCTION
Vice President Production/Carolyn Medeiros; Production Manager/Kim Pennett; Print Display Advertising: (508) 820-8232, Fax: (508) 879-0446. DISTRIBUTION: Director of Distribution and Postal Affairs/Bob Wescott

STRATEGIC PROGRAMS AND EVENTS
Vice President Strategic Initiatives/Leo Lego; Vice President Business Development/John Amato; Senior Director, Event Sponsorship Sales/Ann Harris; Vice President, Event Marketing and Conference Programs/Derek Hulitzky; Director, Event Management/Michael Meleedy; Program Director, Computerworld Honors/Sandy Weill; Business Development Specialist/Colin Longwil; Business Development Specialist/Chris Leger; Business Development Specialist/Amy McLellan; Marketing Manager/Timothy Johnson; Conference Manager/Nancy Fetsheim; Sr. Marketing Specialist/Duncan Newell; Executive Programs Manager-Computerworld Honors/Deborah Lee; Executive Programs Manager Executive Assistant/ Kelly McGill; Custom Events Specialist/Jean Lee; Operations Specialist/Chris Johnson; Web Development Specialist/Michelle Remeny; Customer Service Coordinator/Josh Ryan; Audience Development Coordinator/Shari Ebi; One Speen Street, Box 9171, Framingham, MA 01701-9171, (508) 879-0700, Fax: (508) 626-8524

ONLINE ADVERTISING
Director of Online Sales/Sean Weglage, (415) 978-3314, Fax: (415) 543-8010; Online Sales Manager, East Coast/James Kalbach, (610) 971-1588; Online Account Executive/April Hughes, (415) 978-3311, Fax: (415) 543-8010; Online Account Executive/Matthew Wintringham, (508) 270-3882, Fax: (508) 270-3882; Account Services Director/Bill Rigby, (508) 820-8111, Fax: (508) 270-3882; Online Account Executive/Kathryn Goryl, (508) 620-7760, Fax: (508) 270-3882; Online Account Services Specialist/Stacey Buchanan; Online Account Services Specialist/Heidi Squires; Online Sales Assistant/Joan Olson (508) 270-7112; One Speen Street, Box 9171, Framingham, MA 01701-9171, Fax: (508) 270-3882

IT CAREERS ADVERTISING SALES OFFICE
Director of Sales/Laura Wilkinson, (847) 441-8877, Fax: (847) 441-8878; One Speen Street, Framingham, MA 01701

LIST RENTAL
POSTAL: Rich Green, (508) 370-0832, e-mail: rgreen @idglist.com. E-Mail: Christine Cahill, (508) 370-0808, e-mail: ccahill@idglist.com. MAILING ADDRESS: IDG List Services, P.O. Box 9151, Framingham, MA 01701-9151, Fax: (508) 370-0020

COMPUTERWORLD SALES OFFICES

PRESIDENT/PUBLISHER/CEO
Matthew J. Sweeney
(508) 271-7100
Fax: (508) 270-3882

SALES INTEGRATION DIRECTOR
Laurie Marinone
(508) 628-4823
Fax: (508) 270-3882

NORTHWESTERN STATES
ACCOUNT DIRECTOR: Jim Barrett (415) 978-3306, ACCOUNT EXECUTIVE: Chris Da Rosa (415) 978-3304, 501 Second Street, Suite 114, San Francisco, CA 94107, Fax: (415) 543-8010

BAY AREA
ACCOUNT DIRECTORS: Jim Barrett (415) 978-3306, Sara Culley (415) 978-3307; ACCOUNT EXECUTIVES: Chris Da Rosa (415) 978-3304, Emmie Hung (415) 978-3308, 501 Second Street, Suite 114, San Francisco, CA 94107, Fax: (415) 543-8010

SOUTHWESTERN STATES
ACCOUNT DIRECTOR: Bill Hanck (949) 442-4006; ACCOUNT EXECUTIVE: Jean Dellarobba (949) 442-4053, 19200 Von Karman Avenue, Suite 360, Irvine, CA 92612, Fax: (949) 476-8724

EASTERN CENTRAL STATES/ INDIANA
ACCOUNT DIRECTOR: Peter Mayer (201) 634-2324; ACCOUNT EXECUTIVE: John Radzniak (201) 634-2323, 650 From Road - 2nd Floor, Paramus, NJ 07652, Fax: (201) 634-9289

CENTRAL STATES
ACCOUNT DIRECTOR: Bill Hanck (949) 442-4006; ACCOUNT EXECUTIVE: Jean Dellarobba (949) 442-4053, 19200 Von Karman Avenue, Suite 360, Irvine, CA 92612, Fax: (949) 476-8724

NEW ENGLAND STATES
ACCOUNT MANAGER: Deborah Crimmings (508) 271-7110; SALES ASSOCIATE: Jess Roman (508) 271-7108, One Speen Street, Framingham, MA 01701, Fax: (508) 270-3882

METRO NEW YORK
ACCOUNT DIRECTOR: Peter Mayer (201) 634-2324; ACCOUNT EXECUTIVE: John Radzniak (201) 634-2323, 650 From Road - 2nd Floor, Paramus, NJ 07652, Fax: (201) 634-9289

SOUTHEASTERN STATES
ACCOUNT DIRECTOR: Lisa Ladle-Wallace (904) 284-4972, 5242 River Park Villas Dr., St. Augustine, FL 32092, Fax: (800) 779-8622; SALES ASSOCIATE: Jess Roman (508) 271-7108, One Speen Street, Framingham, MA 01701, Fax: (508) 270-3882

ADVERTISER'S INDEX

AT&T 9
www.att.com

Cingular 25
www.cingular.com

dtSearch 40
www.dtsearch.com

Fujitsu Computer Systems Corporation 11
us.fujitsu.com/computers/reliability2

Hewlett-Packard 15
www.hp.com

IBM Cross Server 23, 37
www.ibm.com

IBM Software 2-3, 5, 7
www.ibm.com

InterSystems Caché 19
www.intersystems.com

IT Executive Summit Wireless Security 31
www.itexecutivesummit.com

IT WatchDogs Inc. 40
www.itwatchdogs.com

Kyocera Mita America 27
www.kyoceramita.com

Microsoft Security 29
microsoft.com/security/IT

Network Instruments 40
networkinstruments.com/voip

Novell 47
www.novell.com

Polycom 32
www.polycom.com

SAS 13, 48
www.sas.com

SunGard Availability Services 16/17*
www.availability.sungard.com

Xerox Office Group 45
1-800-ASK-XEROX
xerox.com/office

*Regional Select Edition

This index is provided as an additional service. The publisher does not assume any liability for errors or omissions.

INTERNATIONAL DATA GROUP

CHAIRMAN OF THE BOARD
Patrick J. McGovern

PRESIDENT, IDG COMMUNICATIONS
Bob Carrigan

COMPUTERWORLD is a business unit of IDG, the world's leading technology media, research and event company. IDG publishes more than 300 magazines and newspapers and offers online users the largest network of technology-specific sites around the world through IDG.net (www.idg.net), which comprises more than 330 targeted Web sites in 80 countries. IDG is also a leading producer of 168 computer-related events worldwide, and IDG's research company, IDC, provides global market intelligence and advice through 51 offices in 43 countries. Company information is available at www.idg.com.

IDG

Have a problem with your Computerworld subscription?

We want to solve it to your complete satisfaction, and we want to do it fast. Please write to: **Computerworld, P.O. Box 3500, Northbrook, IL 60065-3500.**

Your magazine subscription label is a valuable source of information for you and us. You can help us by attaching your magazine label here, or copy your name, address, and coded line as it appears on your label. Send this along with your correspondence.

ADDRESS CHANGES OR OTHER CHANGES TO YOUR SUBSCRIPTION
All address changes, title changes, etc. should be accompanied by your address label, if possible, or by a copy of the information that appears on the label, including the coded line.

YOUR NEW ADDRESS GOES HERE: **ADDRESS SHOWN:** ❑ Home ❑ Business

NAME

TITLE COMPANY

ADDRESS

CITY STATE ZIP

OTHER QUESTIONS AND PROBLEMS
It is better to write us concerning your problem and include the magazine label. Also, address changes are handled more efficiently by mail. However, should you need to reach us quickly, the following toll-free number is available: **(888) 559-7327 Outside U.S. call (847) 559-7322.**
Internet address: cw@omeda.com

COMPUTERWORLD allows advertisers and other companies to use its mailing list for selected offers we feel would be of interest to you. We screen these offers carefully. If you do not want to remain on the promotion list please write to the following address – COMPUTERWORLD, Circulation Department, One Speen Street, Framingham, MA 01701.

NAME
TITLE COMPANY
ADDRESS
CITY

HOW TO CONTACT COMPUTERWORLD

We invite readers to call or write with their comments and ideas. It is best to submit ideas to one of the department editors and the appropriate beat reporter.

Don Tennant (508) 620-7714
Editor in chief

Mitch Betts (301) 262-8243
Executive editor

Julia King (610) 532-7599
Executive editor, events

DEPARTMENT EDITORS

Craig Stedman (508) 820-8120
News editor

Mike Bucken (508) 820-8562
Assistant News editor

Kathleen Melymuka (508) 820-8118
Management editor

REPORTERS

Sharon Fisher (208) 922-5833
Storage; disaster recovery and business continuity

Matt Hamblen (508) 820-8567
Networking; mobile/wireless; network/systems management

Heather Havenstein (919) 386-0381
Business intelligence; application development; Web services; application server software; health care industry

Eric Lai (425) 367-4359
Windows, Linux, desktop applications, databases, financial services industry

Linda Rosencrance (508) 628-4734
General assignment; transportation and automotive industries

Carol Sliwa (508) 628-4731
National correspondent

Marc L. Songini (508) 820-8182
ERP, supply chain and CRM applications; RFID; e-voting; retail, food and agribusiness industries

Patrick Thibodeau (202) 333-2448
Enterprise systems; Unix; outsourcing and immigration; antitrust issues

Jaikumar Vijayan (630) 978-8390
Corporate security/privacy issues; related legislation and regulations

Todd R. Weiss (717) 560-5255
General assignment; open-source community; intellectual property; messaging/collaboration

FEATURES

Ellen Fanning (508) 820-8204
Special projects editor

Thomas Hoffman (845) 988-9630
National correspondent

Robert L. Mitchell (508) 820-8177
National correspondent

Mark Hall (503) 391-1158
Editor at large

Gary Anthes (703) 536-9233
National correspondent

Julia King (610) 532-7599
National correspondent

OPINIONS

Frank Hayes (503) 252-0100
Senior news columnist

COMPUTERWORLD.COM

Scot Finnie (508) 628-4868
Online editorial director

Ian Lamont (508) 820-8187
Senior online projects editor

Joyce Carpenter (508) 820-8161
Online projects editor

Sharon Machlis (508) 820-8231
Managing editor/online

Ken Mingis (508) 820-8545
Online news editor

Marian Prokop (508) 620-7717
Online editor at large/Networking channel editor

David Ramel (508) 820-8269
E-mail newsletters/Networking channel editor

Lucas Mearian (508) 820-8215
Storage channel editor

Angela Gunn (206) 388-2508
Security channel editor

Valerie Potter (828) 350-8518
Online how-to and reviews editor

RESEARCH

Mari Keefe
Research manager

Gussie Wilson
Research associate

COPY DESK

Michele Lee DeFilippo (508) 820-8126
Managing editor/production

Bob Rawson (508) 271-8015
Assistant managing editor/production

Eugene Demaitre, Monica Sambataro
Senior copy editors

Carla Dempsey, Donna Sussman
Copy editors

GRAPHIC DESIGN

Stephanie Faucher (508) 820-8235
Design director

April O'Connor
Art director

Owen Edwards
Associate art director

ADMINISTRATIVE SUPPORT

Linda Gorgone (508) 820-8176
Office manager

CONTRIBUTING EDITOR

Jamie Eckle (617) 596-1873
Opinions

CONTRIBUTING COLUMNISTS

Michael Gartenberg, Paul Glen, Barbara Gomolski, John Halamka, Thornton A. May, David Moschella, Bart Perkins, Virginia Robbins, Bruce A. Stewart

CONTRIBUTING WRITERS

Mary Brandel, Stacy Collett, Russell Kay, Mary K. Pratt, Drew Robb

TELEPHONE/FAX

Main phone number (508) 879-0700
All editors unless otherwise noted below
Main fax number (508) 875-8931
24-hour news tip line (508) 620-7716

E-MAIL

- Our Web address is www.computerworld.com.
- Staff members' e-mail follows this form: firstname_lastname@computerworld.com.
- For IDG News Service correspondents: firstname_lastname@idg.com.

LETTERS TO THE EDITOR

Letters to the editor are welcome and should be sent to: letters@computerworld.com. Include your address and telephone number.

MAIL ADDRESS

PO Box 9171, 1 Speen Street, Framingham, Mass. 01701

SUBSCRIPTIONS/BACK ISSUES

Subscription rates:
- U.S., $99.99/year
- Canada, $130/year
- Central and South America, $250/year
- All others, $295/year

Phone (888) 559-7327
E-mail cw@omeda.com
Back issues (888) 559-7327

REPRINTS/PERMISSIONS

Contact Erik Eberz
Phone (717) 399-1900, ext. 150
E-mail computerworld@reprintbuyer.com
Visit www.reprintbuyer.com to obtain quotes and order reprints online.

COMPANIES IN THIS ISSUE

Page number refers to page on which story begins. Company names can also be searched at **www.computerworld.com**

ACS LTD. 18
ADAPTEC INC. 30
ADVANCED MICRO DEVICES INC 12
AFFILIATED COMPUTER SERVICES INC. 24
AGNESIAN HEALTHCARE 26
ALIBABA.COM CORP. 18
AMAZON.COM 30
AMERICAN INTERNATIONAL GROUP INC. 16
AMERISOURCEBERGEN CORP. 17
AOL LLC 30
BAIDU INC. 18
BANK OF AMERICA CORP. 8
BEA SYSTEMS INC 6
BELL CANADA INTERNATIONAL INC 8
BHARTI AIRTEL LTD. 18
BMC SOFTWARE INC. 17
BORLAND SOFTWARE CORP. 16
BPM FORUM 10
BRIDGESTREAM INC. 24
CA INC. 6, 10, 26
CARDINAL HEALTH INC 17
CERNER CORP. 26
CERTIFICATION COMMISSION FOR HEALTHCARE INFORMATION TECHNOLOGY 14
CHEVRON CORP 17
CHILDREN'S HOSPITAL BOSTON 24, 26
CIBC MELLON TRUST CO. 20
CISCO SYSTEMS INC. 10
CITIBANK 8
CITRIX SYSTEMS INC. 44
COMMUNITY SHORES BANK CORP. 8
COMPUTER SCIENCES CORP. 20
COPPIN STATE UNIVERSITY 8
CORTICON TECHNOLOGIES INC. 30
COURION CORP 24
CROSSMARK INC. 6
DELL INC. 6, 18, 30
DELOITTE & TOUCHE LLP 26
DELOITTE TOUCHE TOHMATSU 34
DEUTSCHE TELEKOM AG 18
DIRECTIONS ON MICROSOFT 6
DUKE UNIVERSITY HEALTH SYSTEM 24, 26
EBAY INC. 18
ECLIPSE FOUNDATION 16
ELECTION SYSTEMS & SOFTWARE INC 16
ENTERPRISE RENT-A-CAR CO. 34
EPIC SYSTEMS CORP 1
EUREKIFY LTD. 24
EXXON MOBIL CORP. 22
FAMILY FINANCIAL CREDIT UNION 8
FIFTH THIRD BANCORP 8
FORD MOTOR CO. 30
FORRESTER RESEARCH INC. 8, 16
GARTNER INC. 6, 8, 18, 24
GENERAL MOTORS CORP. 12, 30
GLOBAL LEARNING RESOURCES INC. 34
GOOGLE INC. 6, 20, 30, 34, 35
GREENFIELD NETWORKS INC. 10
HARRIS INTERACTIVE INC 28
HEALTH FIRST INC 24
HERTZ GLOBAL HOLDINGS INC. 28
HEWLETT PACKARD CO. 6, 10, 46
IBM 6, 12, 17, 26
IDC 12, 22
IDS SCHEER AG 30
INFORMATION TECHNOLOGY ASSOCIATION OF AMERICA 20
INFOSYS TECHNOLOGIES LTD. 35
INFO-TECH RESEARCH GROUP. 8
INGERSOLL RAND CO. 26
INTEL CORP. 18, 30
INTEROP VENDOR ALLIANCE 6
JIGSAW DATA CORP. 35
JOBSTER INC. 34
KAISER FOUNDATION HEALTH PLAN INC 1
KAISER FOUNDATION HOSPITALS 1
KAISER PERMANENTE 44
KCI COMPUTING INC 10
KELLOGG SCHOOL OF MANAGEMENT 36
KSL SERVICES 28
LAWSON SOFTWARE INC. 26
LEADING EDGE FORUM 20
LENOVO GROUP LTD. 30
LEVERAGE PARTNERS INC 39
LINKEDIN CORP. 35
LINUX NETWORX INC. 12
LOS ALAMOS NATIONAL LABORATORY 28
MACH1 COMPUTING LLC 12
MARSHALL SPACE FLIGHT CENTER 24
MASTERCARD INTERNATIONAL INC. 8
MCDONALD'S CORP. 20
MEDIATEK INC 18
MEDICAL NETWORK ONE PC 8
MICROSOFT CORP. 6, 8, 10, 18, 24, 26, 46
MICROSOFT DEUTSCHLAND GMBH 18
MICROSOFT INDIA 18
MISSISSIPPI STATE UNIVERSITY 12
MONSTER WORLDWIDE INC. 34
MOTOROLA INC. 12
MUVICO THEATERS INC. 28
MYSPACE.COM 20
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION 24
NATIONAL CENTER FOR SUPERCOMPUTING APPLICATIONS 12
NATIONAL CENTER FOR WOMEN AND INFORMATION TECHNOLOGY 20
NATIONAL COMMITTEE ON VITAL AND HEALTH STATISTICS 14
NATIONAL INFRASTRUCTURE SECURITY COORDINATION CENTRE 8
NATIONWIDE HEALTH INFORMATION NETWORK 14
NETOPIA INC. 12
NETWORK APPLIANCE INC 12
NORTH BAY BANCORP 21
NORTHWESTERN UNIVERSITY 36
NOVARTIS AG 34
NOVELL INC. 6, 24, 46
NPHASE LLC 12
NVIDIA CORP. 12
ODESK CORP 34, 35
OHIO UNIVERSITY 1
OPTI INC. 12
ORACLE CORP 6, 24, 26
PAYPAL INC 18
POLLEX MOBILE SOFTWARE CO. 18
PROFESSIONAL ASSOCIATION FOR SQL SERVER 6
PROFESSIONAL CONSULTING SERVICES INC. 12
QUALCOMM INC. 12
QUANTRIX 10
RANDY'S KARAOKE BAR 16
RED HAT INC 6
RENTACODER.COM 34
ROYAL DUTCH SHELL PLC 33, 34, 35
SANS INSTITUTE 8
SAP AG 18, 30
SAS AIRLINES 39
SENECA COLLEGE 12
SILICON GRAPHICS INC. 12
SMARTMICRO.COM 35
SNAPIN SOFTWARE INC 10
SOCIETY FOR INFORMATION MANAGEMENT 38
STARBUCKS CORP. 21
SUBX INC. 10
SUN MICROSYSTEMS INC. 6, 12, 24, 46
SUSE LINUX AG 6
SYMANTEC CORP. 6
TATA CONSULTANCY SERVICES LTD 35
THE BOEING CO 30
THE BOSTON CONSULTING GROUP INC. 34
THE HUMAN CAPITAL INSTITUTE 34, 35
THE WALT DISNEY CO. 30
TOPIO INC. 12
TRAVEL GUARD GROUP INC. 16
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES 14
U.S. DEPARTMENT OF VETERANS AFFAIRS 14
U.S. SECRET SERVICE 8
U.S. SECURITIES AND EXCHANGE COMMISSION 6
UBS AG 17
UNITED PARCEL SERVICE INC. 30
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN 12
UNIVERSITY OF WISCONSIN 12
VERISIGN INC 17
VISA USA INC 8
VMWARE INC 6
WAL-MART STORES INC. 20
WESCO INC 8
WINTER CORP. 6
WIPRO LTD. 35
YAHOO INC. 6
YOUTUBE INC. 20
ZOOM INFORMATION INC. 35

Continued from page 1

Kaiser

Connect system overloads the company's Citrix Application Delivery software and costs far more to run than necessary as a result of various inefficiencies and scalability problems.

In a letter to Deal, Mark Zemelman, a Kaiser attorney, said that rollouts of complex systems like HealthConnect are likely to face various technical problems, "but none that you mention are unknown to [the company's IT unit] nor were as insurmountable as you imply."

Deal, a publication project supervisor in the health education and training department at Kaiser Permanente's Los Angeles facility, was placed on paid administrative leave after sending the memo. Deal is not an IT employee, according to Kaiser.

A Lot to Handle

The Oakland, Calif.-based Kaiser Foundation health maintenance organization claims 8 million members in nine states and the District of Columbia and operates more than 400 hospitals and health care facilities.

When fully implemented, which is expected by 2009, the HealthConnect system is supposed to give more than 100,000 Kaiser physicians and employees instant access to the medical records of some 8.6 million patients. The system now offers e-messaging, computerized order entry and electronic prescribing capabilities. It can also integrate appointment scheduling, registration and billing functions, the health care provider said.

For an implementation the size of the HealthConnect system, Deal contended, "Epic simply cannot scale to meet the needs of Kaiser Permanente. We're wasting billions of dollars trying to make it. The big issues for me are the financial repercussions of trying to launch such an ineffective and inefficient and unreliable system across the organization."

Deal claimed that Kaiser is wasting more than $1.5 billion annually running inefficient and ineffective IT projects and that much of that is due to the HealthConnect system.

Kaiser declined to disclose the cost of running HealthConnect, which it started rolling out in 2003. The company said the outpatient portion of the project is expected to be fully implemented in 2008 and the in-patient piece by 2009.

Henry Neidermeier, vice president and quality leader at Kaiser Permanente, acknowledged that "the complexity of the challenge here, with the links in the availability chain, is significant." However, "the dedication of this organization is to quality outputs and system availability," he added.

"I do executive reporting, which recounts problems in summary form, and then I do drill-down incident reporting every Monday so that we can actually look at these reports [and] gauge the regional impact of the system," Neidermeier said.

Deal also said that the Citrix scalability issue is significant. "We're the largest Citrix deployment in the world," he said. "We're using it in a way that's quite different from the way most organizations are using it."

Many companies use the Citrix software to link remote users to applications running on corporate networks, according to Deal. "We use it from inside the network," he said. "For every user who connects to HealthConnect, they connect via Citrix, and we're running into monumental problems scaling the servers."

Bruce Turksta, interim CIO and vice president and program director of HealthConnect at Kaiser, said, "The average Citrix server is managing about 65 sessions per server. They can peak up to 80. It's been designed around the capacity requirements we have."

He also noted that the Citrix software "provides a front end and allows us to run a thin-client environment, so you don't have to load Epic software on the PCs in the hospitals or medical offices."

'Defies Common Sense'

Nonetheless, Deal argued that "using Citrix is something that defies common sense. It would be like trying to use a dial-up modem for thousands of users. It's just not going to work. I don't think that Citrix really appreciates what we're trying to do with their software."

Scott Herren, group vice president and general manager for Citrix Systems Inc.'s virtualization systems group, said any scalability problems in the HealthConnect system do not stem from his company's product.

"In fact, we have many very large, successful Epic deployments around the world. However, in order to support large deployments, the Citrix implementation must be architected accordingly," he said.

"Kaiser has expanded its user base very quickly over the last year, and Citrix is working with them as well as other IT vendors to make sure that their IT infrastructure is 100% ready for that expansion," Herren said.

Deal and the unnamed Kaiser IT employee also noted that the Epic software is written in the aging MUMPS programming language, which was created in the late 1960s for developing software for the health care industry.

In a statement, Epic noted that "every product that Kaiser Permanente originally purchased from Epic is live and is being aggressively rolled out. At peak times, Kaiser Permanente's system is handling 26,500 users, [creating] the largest nongovernmental, patient-centric database in the world."

However, Kaiser workers remain concerned about the future of the HealthConnect system, according to the IT employee. "People in the field are frustrated, and the people in IT are just as frustrated because this was a solution forced upon us and was not an IT solution," the IT employee said.

KP HealthConnect Weekly Problem Report
2/27/2006 - 11/5/2006

Incident	Priority	Start Date/Time	Resolved Date/Time	Duration	User Impacted Hours	Deployment Impacted	Facility Impacted	Incident Summary
HD0000001529270	Critical	5/10/2006 6:11:02 AM	5/11/2006 7:20:00 PM	37 Hrs 9 Mins	3,714.94	Inland Empire - 25 Metro LA - 23 San Diego - 20 The Valleys - 12 Tri-Central - 20	ZIO- Zion Medical Center	KPHC- CS Multiple facilities - Patients not cross-major crossing incorrectly from KPDS to KPHC Pharmacy IP Module.

A 722-page internal report compiled by Kaiser's IT department details hundreds of problems with HealthConnect – some of which affect patient care.

Selected Problems

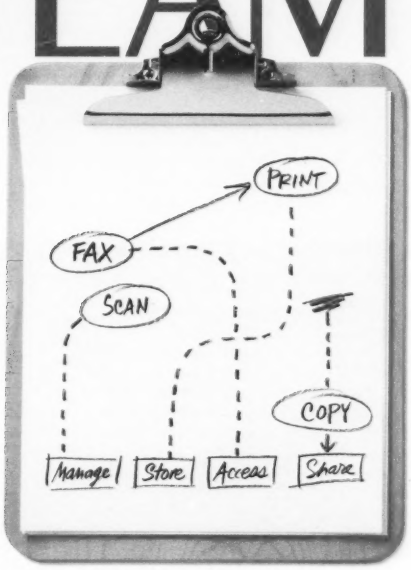
According to the internal Kaiser report, problems with the HealthConnect system this year included the following:

- **On March 26,** users in multiple locations were "intermittently unable to access [HealthConnect for three hours and 51 minutes] – receiving Citrix error messages and therefore unable to access any patient info or update patient info in a timely manner," the report said.
- **On April 10,** users in Kaiser's Baldwin Park, Calif., medical office were unable to place new orders for in-patients for one hour and 51 minutes. "Drug Database information is not populating for pharmacist and technicians," the report said. "New orders will have to be manually done. In the manual process, the nurses cannot see patient updates for new orders for new medications or changes in meds, such as stopping orders. The manual process will create significant delays in patient care."
- **On May 23,** users in Kaiser's Glendale, Calif., medical office could not dispense medication because the billing application was down for one hour and 57 minutes.
- **On June 7,** the company's laboratories were unable to collect data, run tests and provide test results for six hours and 34 minutes.
- **On Sept. 15,** users in multiple locations were unable to check in patients for appointments for 48 minutes. "As a result," the report said, "this causes delays at the front desk for the members to be checked in and seen by their providers. In addition, the departments are not made aware that the member has arrived for their appointment, which can cause delays in the workflow of the department."
- **On Sept. 28,** users in one facility were unable to release lab orders through HealthConnect for two hours and 35 minutes. "This issue is a hindrance to the diagnosis," said the report.
- **On Oct. 10,** doctors and nurses in several facilities were unable to retrieve critical medical information to treat patients for three hours and 24 minutes.
- **On Oct. 11,** multiple users in one facility were unable to access the network for one hour and 47 minutes.

Periodical postage paid at Framingham, Mass., and other mailing offices. Posted under Canadian International Publication agreement #41321518 **CANADIAN POSTMASTER:** Please return undeliverable copy to PO Box 1632, Windsor, Ontario N9A 7C9. Computerworld (ISSN 0010-4841) is published weekly, except a single combined issue for the last two weeks in December by Computerworld, Inc., 1 Speen Street, Box 9171, Framingham, Mass. 01701-9171. Copyright 2006 by Computerworld Inc. All rights reserved. Computerworld can be purchased on microfilm and microfiche through University Microfilms Inc., 300 N. Zeeb Road, Ann Arbor, Mich. 48106. Computerworld is indexed. Back issues, if available, may be purchased from the circulation department. Photocopy rights: permission to photocopy for internal or personal use is granted by Computerworld Inc. for libraries and other users registered with the Copyright Clearance Center (CCC), provided that the base fee of $3 per copy of the article, plus 50 cents per page, is paid directly to Copyright Clearance Center, 27 Congress St., Salem, Mass. 01970. Reprints (minimum 100 copies) and permission to reprint may be purchased from Renee Smith, Computerworld Reprints, c/o Reprint Management Services, Greenfield Corporate Center, 1808 Colonial Village Lane, Lancaster, Pa., 17601, (717) 399-1900, Ext. 150. Fax: (717) 399-8900. Web site: www.reprintbuyer.com. E-mail: computerworld@reprintbuyer.com. Requests for missing issues will be honored only if received within 60 days of issue date. Subscription rates: $5 per copy; U.S. – $99.99 per year; Canada – $130 per year; Central & So. America, $250 per year; Europe – $295 per year; all other countries – $295 per year. Subscriptions call toll-free (888) 559-7327. **POSTMASTER:** Send Form 3579 (Change of Address) to Computerworld, PO Box 3500, Northbrook, Ill. 60065-3500.

BPA ABM RED TAG

TEAM PLAYER



Global companies have teams everywhere. To help them share ideas, Xerox multifunction systems and software put everyone on the same playing field. There's a new way to look at it.

Running a global company requires secure worldwide information sharing. Luckily, Xerox has a solution for everyone on your team. Using Xerox multifunction systems and Xerox DocuShare® software, documents can be securely scanned to the Web. This way people throughout your global network can share them. This keeps documents current, can eliminate warehousing needs by 70% and can reduce order fulfillment time by 80%. Whatever Xerox WorkCentre® multifunction system you choose, you'll reduce costs by printing, copying, scanning and faxing from one convenient network device. Now that's a game plan. To learn more, contact us today.

XEROX.

xerox.com/office/team
1-800-ASK-XEROX ext. 753

Technology | Document Management | Consulting Services

© 2005 Xerox Corporation. All rights reserved. XEROX,® WorkCentre,® DocuShare,® and There's a new way to look at it® are trademarks of Xerox Corporation in the United States and/or other countries.

FRANK HAYES ■ FRANKLY SPEAKING

Simple Is Better

SIMPLE. That's the word that keeps coming to mind about the news that Sun Microsystems has turned Java into open-source software. There are no new custom software licenses involved, no complicated deals, no funky motives, no dark rumblings of conspiracy. It's as if Sun simply pointed to Linux and said, "See that one? That's what Java will be like."

It's especially simple compared with the murky, muddled FUD-fest that was Microsoft and Novell's announcement about their Linux collaboration. That still has the open-source crowd up in arms.

And that simplicity is good news for Sun and Java — and for IT.

It's easy to understand how Sun could open-source Java. The company has run out of ideas for wringing money out of it. Java no longer generates the buzz it did a decade ago, Sun has never struck oil in the Java development tools market, and the once-looming threat of Microsoft or Hewlett-Packard hijacking Java is long gone.

Put simply, Java is obsolete as a product for Sun, even though it's still very useful to the rest of us. With the stakes now so low for Sun, the company can afford to declare victory and walk away from the table.

It's what Sun didn't do that's remarkable. Sun spent years battling to maintain control of Java. There was the three-year lawsuit with Microsoft over changes Microsoft made to how Java worked on Windows — followed by another Java-related antitrust suit against Microsoft. There were Sun's previous efforts to be open-source-ish in its own way — the Java Community Process, the Sun Public License and the Common Development and Distribution License (CDDL).

Anyone knowing that history would have expected Sun to open-source Java on Sun's own terms — say, with a CDDL license, some kind of specialized terms for use, maybe a few intellectual property strings still attached.

Amazingly, Sun didn't do any of that. The Java open-source license is identical to the Linux license. No specialized terms. No strings. Nothing new. Sun actually did keep it simple.

And to make things simple for people who were already using Java under the previous CDDL license, Sun kept that license, too.

And while the open-source army will get its crack at coming up with new ideas and improvements, Sun will keep a hand in to prevent Java from forking.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at **frank_hayes@computerworld.com**.

In sum, the biggest immediate impact on corporate IT of open-source Java is . . . no impact at all. Nothing to adjust to. Nothing to run past the lawyers. For IT, operationally, it means nothing.

Now *that's* simple. That's the way we like it.

Compare that with the Linux announcement that Microsoft and Novell made recently. It's tough to parse, because nobody's admitting exactly how and why the deal was done. But it seems Novell gets some much-needed cash, the two companies will work together to make Linux more Windows-compatible somehow, and Microsoft promises not to sue SUSE Linux users for patent infringement (which Novell says Microsoft couldn't do anyway), at least until Microsoft cancels the agreement.

And it may or may not violate the Linux license — opinions vary. (Unlike Sun with Java, Novell doesn't own Linux and thus can't set its own licensing terms.)

Not so simple, is it? In fact, it's such a muddy, fuddled mess that Novell has spent weeks trying to explain how it's a good thing.

It may be good for Novell and Microsoft. But it doesn't make life simpler for the rest of us.

Look, we have to deal with security worries, organizational politics, skimpy budgets, book-of-the-month management fads, whipsaw technology changes, subversive users and coercive vendors. Our jobs are complicated enough. We don't need incoherence and bafflegab.

We need clarity and usefulness and, above all, as little extra work as possible.

So next time vendors want to impress us with their deals, maybe they should just point to Sun's Java announcement and say, "See that one? That's what ours will be like."

And the simpler, the better. ▸

Communication Breakdown

Fresh out of college, this pilot fish gets an IT job that requires him to carry a pager at all times. Fish doesn't object, and it really isn't a problem; in eight months on the job, it never goes off. "One day, I was supposed to meet for my six-month review and was told the boss would get back to me," says fish. "While I was asleep, an alarm went off, and I sprang into action to get out of the house. Somewhere in my groggy state, it hit me: It was my pager that was going off, not the smoke detector on the ceiling right above it. I called the number back to find out they were going to tell me where to meet in the morning."

SHARK TANK

Thanks

This organization uses its in-house messaging system to make announcements. "The messages deleted themselves after a set period," says a pilot fish who configures the accounts for new users. "But one day I logged in to discover that all the messages were gone! I reviewed the latest users I'd added and found I had given one user full control over the announcement folder. I fixed the problem and posted a message that some of the old posts were removed as part of maintenance. Later, I asked the guy why he had deleted the messages. His reply, 'None of them were for me.' "

That's Better?

At this company, spam is a major issue. But a network guru finds a fantastic new spam filter and installs it – without much testing. "Almost immediately, complaints start coming in, from the president on down," says a pilot fish working there. "Important and critical e-mails are being returned to senders labeled 'spam.' The network guru's solution? Have them send their e-mails to an alternate address, and the help desk will forward them."

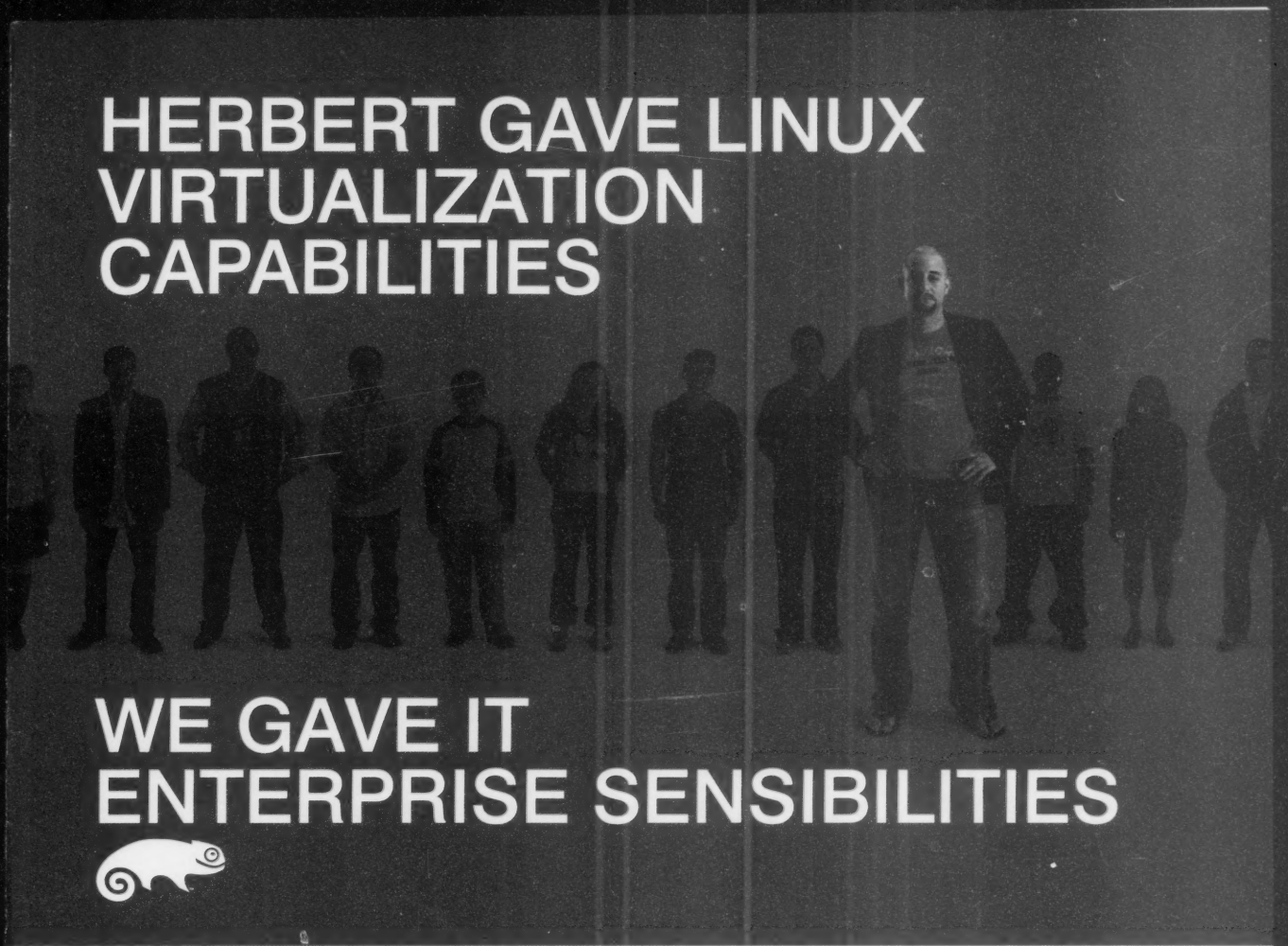
That's Why

Frantic employee tells help desk pilot fish that she's lost all of last Friday's e-mails. Reports fish, "After several minutes of checking previous days' e-mails, the trash can, sent items and so on, I ask the question, 'Were you here on Friday?' She thinks for a minute and then says, 'Uh, no, I was off.' "

That's for Sure

Nobody's very happy with this company's e-mail system, which was forced on users after years of successfully using a different system. "When our HQ folks were upgrading our e-mail server, our local network admin sent us a note telling us the server would be down for a few hours," says a pilot fish on the scene. "Someone hit reply-all with, 'I hope this upgrade makes it not work better than it's ever not worked before!' "

WORK WITH SHARKY HERE. Send me your true tale of IT life at **sharky@computerworld.com**. You'll score a sharp Shark shirt if I use it. And check out Sharky's blog, browse the Sharkives and sign up for Shark Tank home delivery at **computerworld.com/sharky**.



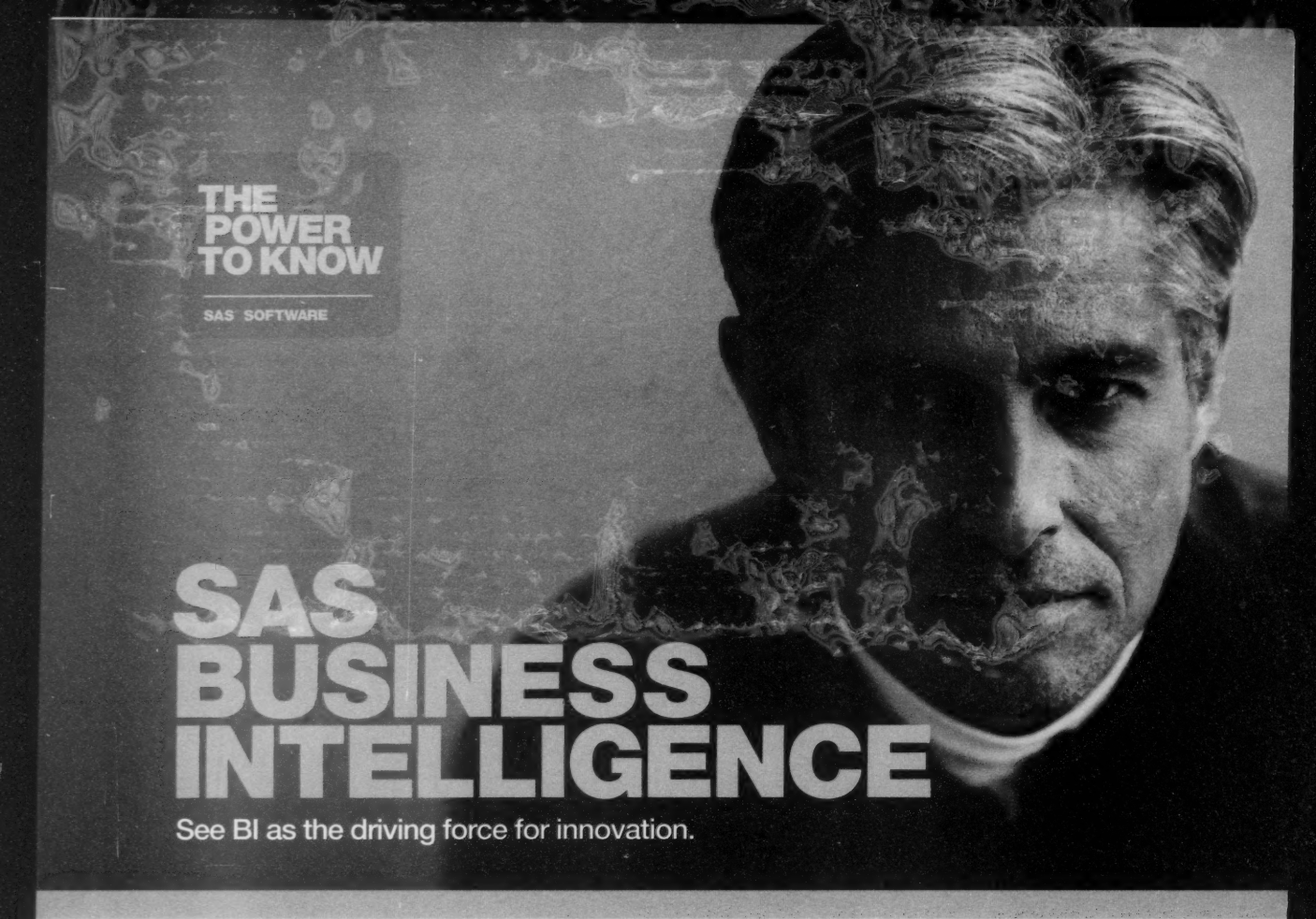
Your Linux is ready.™

Introducing SUSE® Linux Enterprise Server 10 from Novell®. Built by a global community and secured, supported, tested and proven by Novell. With built-in virtualization, advanced clustering capabilities and certifications for more enterprise applications, SUSE Linux Enterprise Server 10 is the reliable alternative to UNIX that makes consolidating servers easy and affordable. And changes the way the world works forever.

Get it at **www.novell.com/linux**

Novell®
This Is Your Open Enterprise.™

Copyright ©2006 Novell, Inc. All rights reserved. Novell, the Novell logo, and SUSE are registered trademarks and This Is Your Open Enterprise, Your Linux is ready, and the gecko logo are trademarks of Novell, Inc. in the United States and other countries. *Linux is a registered trademark of Linus Torvalds. All third-party trademarks are the property of their respective owners. Novell wishes to thank the thousands of developers who contribute to Linux every day.



SAS BUSINESS INTELLIGENCE

See BI as the driving force for innovation.

ENTERPRISE INTELLIGENCE PLATFORM
DATA INTEGRATION
INTELLIGENCE STORAGE
BUSINESS INTELLIGENCE
ANALYTICS

Imagine BI quickly integrated into any existing environment – freeing you to focus on strategic business projects. SAS gives you fast, easy access to multiple data sources, consistent and credible reporting, simple deployment of data across your organization, and accurate insights – for collaborative decision making among users at all skill levels. And SAS eliminates the need to maintain data, security and metadata in several places and formats. Providing reliable results that can be shared quickly to ensure that IT inspires business innovation. More than 4 million users at 40,000 locations around the globe rely on SAS to get better answers, faster, that drive performance.

Want Proof? Find out why SAS is at work in 96 of the top 100 companies on the FORTUNE Global 500®— with customer retention rates exceeding 98% annually for 30 years.

www.sas.com/bi • Free BI special report

sas®

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration. Other brand and product names are trademarks of their respective companies. © 2006 SAS Institute Inc. All rights reserved. 378049US.0406